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2022-2023 Undergraduate Catalog

University of Alabama in Huntsville

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Undergraduate Catalog

The Undergraduate catalog is a comprehensive reference for your academic career. It provides a list of programs and courses offered at The University of Alabama in Huntsville. In addition, it gives you valuable information such as suggested and required degree plans and information about tuition, financial aid, and support services.

While we encourage you to follow the pathways outlined in this catalog, it is also recommended that you take every opportunity to consult with your academic advisor to ensure that you are taking advantage of courses and university resources that will help you reach your educational and career goals by graduating on time. A list of advisors by college is provided by the Registrar's Office (uah.edu/academic-advising (<http://www.uah.edu/academic-advising/>)).

For questions regarding the content of this catalog please contact the Registrar's Office at 256.824.7777 or SSB 120.

Academic Information

Charger Success Course

The purpose of the Charger Success 101 course (FYE 101) is to help new students make a successful transition to The University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, provide fundamental knowledge and skill sets essential for success at UAH, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills and help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students and is determined by the college of their major.

Degrees Offered

Programs are provided as indicated below for the undergraduate degrees of **Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science in Business Administration, Bachelor of Science in Nursing, Bachelor of Science, Bachelor of Science in Aerospace Engineering, Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Industrial & Systems Engineering, Bachelor of Science in Mechanical Engineering.**

Bachelor of Arts - Art, English, History, Communication Arts, Theatre, Writing, Philosophy, Sociology, Political Science, Psychology, Elementary Education, Foreign Language (French, German, Spanish, Russian), Music, Professional Studies

Bachelor of Fine Arts

Bachelor of Science - Economics and Computational Analysis, Cybersecurity Engineering, Secondary Education, Early Childhood / Early Childhood Special Education, Kinesiology, Sport and Fitness Management, Professional Studies, Mathematics, Biological Sciences, Chemistry, Computer Science, Atmospheric and Earth Science, Physics, Individualized

Bachelor of Science in Aerospace Engineering

Bachelor of Science in Business Administration - Accounting, Finance, Management, Marketing, Information Systems

Bachelor of Science in Chemical Engineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Computer Engineering

Bachelor of Science in Electrical Engineering

Bachelor of Science in Industrial & Systems Engineering

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Nursing

Declaring a Major

When applying to enter UAH, prospective students may declare a major, defined as the primary field of study. Required major semester hours vary by program but typically range from 30-45 semester hours with overall degree requirements ranging from 120-143 semester hours. Some students are not yet decided and may declare "undecided". The Colleges of Arts, Humanities, and Social Sciences, Business, Education, Engineering, Honors, Professional Studies, Science, and Nursing assign advisors. Undecided students will be advised by the Exploratory Advisor, Kellee Crawford, in Wilson Hall, room 143. For information on how to declare a major in the Colleges of Arts, Humanities, and Social Sciences, Business, Education, Engineering,

Honors, Professional Studies, Science, and Nursing contact the advising office of the college or visit the advising website (<http://www.uah.edu/academic-advising/>).

Minors

Typical minors are offered in all major fields of study and require a minimum of 18 semester hours of work, six of which are at the 300/400 level and must be completed at UAH. Students should consult their advisors and the appropriate subject area portions of the catalog.

Many degree programs that have extensive core requirements for majors do not have a minor component. Students, however, may opt to add a minor to their programs of study. Again, students should work closely with their advisors in constructing their programs of study for timely completion of their degrees.

Army ROTC Program

Army Senior Reserve Officers Training Corps (ROTC) Department

Location: 223D Charger Union (Building #17 (CGU) on UAH campus map)

Telephone: (256) 372-4023

Email: kph0015@uah.edu

Chair: Professor of Military Science (Alabama A&M University)

Instructor: Military Science Instructor (Military or Army Contractor) /Assistant Professor of Military Science (Military)

Army Senior ROTC Web Page: <http://www.goarmy.com/rotc.html>

Alabama A&M University ROTC Web Page: <http://www.aamu.edu/academics/colleges/agricultural-life-natural-sciences/departments/military-sciences/index.html> (<http://www.aamu.edu/academics/colleges/agricultural-life-natural-sciences/departments/military-sciences/>)

Overview

Alabama Agricultural & Mechanical University (Alabama A&M) established its Army ROTC program in 1971 and serves as the program host. The University of Alabama in Huntsville is an extension of the Alabama A&M program and its students may use the Visiting Student Agreement between the universities to participate in the ROTC program. The Military Science Instructor (MSI)/Assistant Professor of Military Science (APMS) represents Alabama A&M's Professor of Military Science on the UAH campus.

Mission

The Military Science Department produces commissioned officers in the quality, quantity, and academic disciplines necessary to meet regular Army (RA), Army National Guard (ARNG), and the US Army Reserve (USAR) requirements. Instruction in basic concepts and principles of military arts and sciences, including leadership, professional values and ethics, and an appreciation of national security issues, provide selected students with a sound basis for future professional development and effective performance to serve as commissioned officers in the active and reserve components of the U.S. Army.

Program Description

The ROTC program consists of eight semesters of instruction divided into two courses. The Basic Course, consisting of four semesters, is designed to provide freshman and sophomore students with the conceptual skills required to effectively manage their time, health and fitness, and support effective communication. Course outcomes enable students to understand U.S. Army customs, courtesies, and the Army's Professional Ethic. Participation in the Leadership Laboratory reinforces classroom training and provides an opportunity to master basic military skills such as drill and ceremonies, first aid, field craft, and land navigation. The Leadership Laboratory uses simple tactical scenarios to drive the students' military decision making process. The Advanced Course, also consisting of four semesters, is designed to prepare Basic Course graduates, eligible students with prior military service, or students currently serving in the USAR or ARNG, with the conceptual skills and professional military education necessary to commission as an officer in the U.S. Army. Advanced Course students receive practical experience each week through mandatory participation in the Leadership Laboratory. Advanced Course students must also participate in morning physical conditioning at the ROTC Building on the Alabama A&M University campus.

The APMS provides Basic Course classroom instruction on the UAH campus. Physical conditioning training and the Leadership Laboratory are conducted at the ROTC Building on the Alabama A&M University campus on Mondays, Wednesdays, and Fridays.

All Advanced Course instruction takes place in the ROTC Building on the Alabama A&M University campus.

Course Registration

Although students may register for Military Science classes using BANNER, the Professor of Military Science, or his representative, is required to ensure that each student's degree program is properly aligned with ROTC program requirements to ensure completion of pre-commissioning requirements.

prior to graduation. Therefore, interested students should contact the ROTC Department prior to registration to ensure proper placement in the ROTC program.

Eligibility Requirements

For current eligibility and commissioning requirements, contact the Recruiting Operations Officer at Alabama A&M University at (256) 372-4023 for details.

Year 1

		Semester Hours
Fall		
MIL 101	MILITARY SCIENCE I	2
MIL 101L	LABORATORY	0
Term Semester Hours:		2
Spring		
MIL 102	MILITARY SCIENCE I	2
MIL 102L	LABORATORY	0
Term Semester Hours:		2

Year 2

Fall		
MIL 201	MILITARY SCIENCE II	2
MIL 201L	LABORATORY	0
Term Semester Hours:		2
Spring		
MIL 202	MILITARY SCIENCE II	2
MIL 202L	LABORATORY	0
Term Semester Hours:		2
Total Semester Hours:		8

Year 3

		Semester Hours
Fall		
MIL 301 & 301L	MILITARY SCIENCE III and LABORATORY	3
Term Semester Hours:		3
Spring		
MIL 302 & 302L	MILITARY SCIENCE III and LABORATORY	3
Term Semester Hours:		3

Year 4

Fall		
MIL 401 & 401L	MILITARY SCIENCE IV and LABORATORY	3
Term Semester Hours:		3
Spring		
MIL 402 & 402L	MILITARY SCIENCE IV and LABORATORY	3
Term Semester Hours:		3
Total Semester Hours:		12

Progression (Basic Course + Advanced Course)

Students complete 8 credit hours (4 semesters) of military science instruction beginning with the fall semester of their freshman year. After the basic course, progressing students must complete 12 additional credit hours (4 semesters) of military science instruction and attend Advanced Camp (AC) in the summer between their junior and senior years.

Lateral Entry (Advanced Course)

Students who have completed initial entry training (IET) in any branch of service, or who have completed JROTC in high school, or attended ROTC Basic Camp (BC) may receive placement credit for the ROTC basic course at the PMS's discretion.

Graduate students with a minimum of 2 years remaining in their degree programs may enroll after completing BC. They must still attend AC during the summer, either prior to or after graduation. ***Requires permission of Professor of Military Science.***

Professional Military Education (PME) Requirements

US Army Cadet Command, which enforces requirements for pre-commissioning training, requires all commissioning candidates to successfully complete the following PME requirements prior to commissioning:

3 credit hours of US Military History (HY 371 US Military History (offered during Fall semester at UAH) or HIS 315 US Military History (offered during Spring semester at Alabama A&M University)).

Advanced Camp - Successfully complete Advance Camp (must attain a minimum rating of "CAPABLE" on Cadet Officer Evaluation Report for performance during training) prior to commissioning.

Completion Cadets

Students that have completed all required military science instruction (based on program requirements explained above), BC (or IET), and AC, but have not completed their degree programs, are classified as completion cadets. Completion cadets are normally eligible to commission after completion of all degree requirements. ***Requires permission of Professor of Military Science.***

Code	Title	Semester Hours
Military Science I		4
MIL 101	MILITARY SCIENCE I	2
MIL 101L	LABORATORY	0
MIL 102	MILITARY SCIENCE I	2
MIL 102L	LABORATORY	0
Military Science II		4
MIL 201	MILITARY SCIENCE II	2
MIL 201L	LABORATORY	0
MIL 202	MILITARY SCIENCE II	2
MIL 202L	LABORATORY	0
Military Science III (Alabama A&M University ROTC Building)		6
MIL 301	MILITARY SCIENCE III	3
MIL 301L	LABORATORY	0
MIL 302	MILITARY SCIENCE III	3
MIL 302L	LABORATORY	0
Military Science IV (Alabama A&M University ROTC Building)		6
MIL 401	MILITARY SCIENCE IV	3
MIL 401L	LABORATORY	0
MIL 402	MILITARY SCIENCE IV	3
MIL 402L	LABORATORY	0
Related Courses Offered by AAMU ROTC Department (Requires Visiting Student Agreement and PMS Permission)		4
MIL 498	MILITARY SCIENCE-VA/A&M	2
MIL 499	MILITARY SCI-SPEC TOPICS/A&M	2

Cooperative Education and Career Development Program

Student Services Building, Room 205

256.824.6741

chargerjobs@uah.edu

www.uah.edu/career-services/ (<http://www.uah.edu/career-services/>)

Career Center

Career Services

Career Services assists students in all phases of career planning and preparation including resume writing and critique, interview preparation, developing networking skills, career assessments, and career coaching through one-on-one appointments as well as workshops and information sessions. Our services provide students with the knowledge and resources to make informed career choices and personal skills to reach their objectives.

Career Services coordinates on and off-campus recruiting opportunities and hosts two comprehensive career fairs each fall and spring semester for students in all majors. Career Fair allows our students the opportunity to speak with multiple employers in one location about cooperative education (co-op), internships, and degree positions. Attendees are required to dress professionally and bring copies of their resumes for distribution.

Cooperative Education and Internships

Cooperative Education and Internships provide a unique, structured educational experience that allows students to gain practical, professional work experience while completing degree requirements. Through the integration of classroom theory and professional practices, students increase their understanding of the work world.

The Cooperative Education program offers alternating and parallel options. Students working on an alternating schedule rotate semesters of full-time study with semesters of full-time work in their majors. Some students may complete continuous parallel (part-time work) assignments concurrently with a reduced class load. Cooperative Education work experiences are progressive in responsibilities, monitored by the University, and directly related to the students' academic and career goals. Students participating in Cooperative Education are required to register their Cooperative Education through the Career Center.

Internships are one semester, degree-related employment opportunities where students work one-on-one with professionals to gain practical experience in their field. Several academic programs on campus offer credit for internships; students should check with their academic advisor to learn about any credit-bearing internship opportunities within their program of study.

Charger Path

Charger Path is UAH's exclusive comprehensive career management system and all newly enrolled students receive an account during their first week of classes. In this system, students update their profiles, upload their resumes and apply for positions including co-ops, internships, and professional degree opportunities. Through Charger Path, students receive career announcements, view upcoming workshops and information sessions, have access to on-campus recruiting schedules, and make appointments with the Career Center.

JUMP!

UAH's Joint Undergraduate Master's Program (JUMP) allows undergraduate students to study at the graduate level. By taking graduate courses in your senior year, you could reduce the time taken to get a graduate (M.S. or M.A.) degree. Visit [uah.edu/jump](https://www.uah.edu/jump) (<https://www.uah.edu/admissions/graduate/discover-uah/joint-undergraduate-masters-program/>) to view a current listing of all JUMP eligible programs.

Benefits for you:

1. No entrance exam!
2. Double count undergrad classes for grad degree!
3. Pay undergrad tuition for grad classes taken as a JUMP student!
4. No graduate application fee!

How to JUMP:

For admission to JUMP, students must meet overall GPA requirements of the program. GPA includes all transfer coursework. Students should contact the JUMP advisor of their academic program for more information about admission requirements.

To apply, students must submit the JUMP application to the JUMP advisor for their academic program any time before their last semester. View more information at [uah.edu/jump](https://www.uah.edu/jump) (<https://www.uah.edu/admissions/graduate/discover-uah/joint-undergraduate-masters-program/>).

JUMP Requirements & Official Rules:

- Students must receive at least a B in each JUMP course for it to count towards a graduate degree.
- Students must maintain a minimum overall GPA throughout JUMP program until graduation. GPA requirements vary by academic program.
- All coursework must be completed within six years of taking your first JUMP class.
- Students are considered undergraduate students until all requirements for undergraduate degree are met.
- If a change is made to the initial JUMP application both a JUMP change form and a change to student's undergraduate Program of Study (POS) must be submitted for approval to your JUMP advisor.

- Students cannot hold a GTA, GRA, or graduate scholarship or fellowship until undergraduate degree is completed.
- Students must begin their graduate program within one year of their undergraduate graduation.

Completing Your Graduate Degree:

Within the last term of undergraduate enrollment, JUMP students must submit the online application for graduate admission in order to continue in JUMP and register for graduate classes. Admission to the UAH Graduate School will be granted if students have maintained the minimum requirements of their JUMP academic program.

If a student's GPA upon graduation is less than the required minimum, the student does not receive admission to the graduate degree program automatically. Previously completed graduate coursework through JUMP will be counted as if the student had been a non-degree seeking graduate student. Students must apply to the UAH Graduate School and meet all the admissions requirements set by the academic department for new graduate applicants.

More information available at <http://uah.edu/jump> (<http://uah.edu/jump/>)

Online Learning

The University of Alabama in Huntsville offers a number of academically challenging online and hybrid-online programs. Please review a listing of available programs here: <http://www.uah.edu/online> (<http://www.uah.edu/online-learning/>)

Courses offered in the online and hybrid modalities will be clearly designated as such in the course listing for each semester.

State Authorization:

The state of Alabama is a member of the SARA compact. The State Authorization Reciprocity Agreement is an agreement among member states, districts, and territories that establishes comparable national standards for interstate offering of postsecondary online education courses and programs. It is intended to make it easier for students to take online courses offered by postsecondary institutions based in another state. For more information, including a current list of states in the SARA compact, please visit <http://www.nc-sara.org/>. The University of Alabama in Huntsville is an approved SARA institution.

For further information regarding SARA requirements on the UAH campus please see <http://www.uah.edu/academic-affairs/offices/oira/state-authorizations> (<http://www.uah.edu/academic-affairs/offices/oira/state-authorizations/>)

Topics include: Timeline for approval, International Residents, Territories and Provinces, Military Bases, Additional Resources, Professional Licensure, & Grievance Procedures

Pre-Health Professions

Pre-Health Professions
Shelby Center, Room 146
256.824.4714

Advisor & Coordinator: Kristin Hawthorne (prehealth@uah.edu)

The Office of Pre-Health Professions offers guidance for current UAH students interested in pursuing a career in the professional healthcare field.

While many of our students express an interest in Pre-Health, it is important to understand that it is not an actual major. Instead, your Pre-Health Professions Advisor will help you choose the best major possible to help you become a good candidate for one of the many health-related graduate programs. This could mean you will be majoring in Biology, Physics, Math, or another program through the College of Science — or you could chose a major through the Colleges of Arts, Humanities, and Social Sciences; Business; Education; Engineering; Nursing; or Professional Studies.

To receive services and maintain status at UAH as a pre-health professions student, all interested students must apply through the Pre-Health Professions website.

Mission

The Office of Pre-Health Professions serves to facilitate current UAH students in their individual journey of pursuing a career in the professional healthcare field and preparing for a career of service. The Office of Pre-Health Professions is committed to providing the tools, support, resources, and academic and career advising necessary to meet the individual needs of UAH's pre-health students.

Vision

The Office of Pre-Health Professions is committed to fostering student success by:

- Providing a welcoming and open environment where personal growth, discovery, curiosity, and leadership are encouraged.
- Developing an equally valuable individual and community experience that meets the distinctive needs of the students.

- Challenging students to prioritize their own personal development and professional development through the exploration of the professional fields and engagement with organizations on and off campus.
- Empowering students to understand and demonstrate social and ethical responsibility in their own lives.
- Facilitating a commitment to volunteerism in preparation for a career of service.
- Encouraging students to interact, collaborate, and learn from students with a variety of backgrounds and perspectives.
- Promoting collaborative relationships with those within the university, surrounding community, and professional partners.

Pre-Law Program Certificate

The Certificate in Pre-Law Program is designed to provide undergraduate students with skills that are required for law school and the practice of law: analytical reasoning, reading, and writing. It is also intended to provide a background on various perspectives on law from a variety of disciplines not often associated with legal studies, such as sociology, psychology, and history.

A student who chooses to pursue a Certificate in Pre-Law may choose *any major or minor in any college* at UAH. A choice of major and minor is best made in consultation with the Pre-Law Adviser, who can guide a student in choosing courses that will prepare him or her for the academic rigors of a legal education. For many students, the Certificate can be earned without adding additional hours to a degree program. Select courses can be counted toward Charger Foundations.

Code	Title	Semester Hours
Core Courses		9
PHL 102	INTRO TO ETHICS	3
PHL 103	INTRODUCTION TO LOGIC	3
And one of the following two courses:		
PHL/PSC 330	CLASSI POLITI PHILOSOPHY	3
PHL/PSC 332	MODERN POLITICAL PHILOSO	3
Elective Courses ¹		6
CM 418	LEGAL ARGUMENT	
EH 320	PRACTICUM IN WRITING	
PHL 320	SYMBOLIC LOGIC	
Any 100 level WLC course		
PSC 452	AMER CONSTITUTIONAL LAW	
PSC 454	CIVIL LIBERTIES	
PY 434	PSYCHOLOGY AND LAW	
SOC 303	STATISTICS/SOCIAL SCIENCES	
SOC 307	SOCIOLOGY OF LAW	
Total Semester Hours		15

¹ With appropriate justification, the pre-law adviser may allow other elective courses.

If you are interested in the Certificate in Pre-Law Program, please contact Dr. John Harfouch at john.nale@uah.edu or (256) 824-2337.

Study Abroad

The Office of Study Abroad, within the Office of International Services, serves as the coordinating office for study abroad opportunities at UAH.

Faculty-Led Courses

Each year, UAH offers a number of faculty-led study abroad courses typically ranging from two to four weeks in length and conferring three to six academic credit hours in the course(s) offered.

Summer, Semester, and Academic-Year Programs

UAH works with international partners and education abroad organizations to offer students summer, semester, or academic-year study abroad programs at sites in Africa, Asia, Australia, and Europe. You can participate in these programs and earn academic credit toward your degree at UAH. Programs are with affiliate partners or exchange agreement partners.

Internship, Research, and Service Abroad Opportunities

Students may consult with the Office of Study Abroad about interning, researching, and completing service projects abroad. Please note that many of these opportunities have specific application procedures and may be competitive in the selection process.

To learn more about specific countries and programs, please visit our Study Abroad programs page (<https://www.uah.edu/study-abroad/programs/>) for more information or by emailing studyabroad@uah.edu.

The Office of Study Abroad is located in the Student Services Building, Room 218.

Admissions

Welcome to the Office of Admissions at UAH

The Admissions Staff is here to assist you as you explore your college options. With more than 100 areas of study in our nine colleges, 175+ student organizations, and suite-style living in the residence halls, we believe you will find UAH is the right place for you!

As you research UAH, make sure to contact your Admissions Counselor (<http://www.uah.edu/admissions/undergraduate/office/counselors/>) so they can help you along the way. From assisting you with your admission application to providing you with the most up-to-date information about campus to getting you in contact with other campus representatives, we are happy to help!

We know that visiting campus and getting involved is important in making your college decision. That's why we offer daily campus visits (<http://www.uah.edu/admissions/undergraduate/visit-campus/>) which allow you to speak with an Admissions Counselor and go on a student-led campus tour. We hope you'll also join us at one of the many events (<http://www.uah.edu/admissions/undergraduate/upcoming-events/>) we host both here on campus and in your community!

Academic Common Market of the Southern Regional Education Board

The Academic Common Market (ACM) is an association of 15 states (AL, AR, DE, FL, GA, KY, LA, MD, MS, OK, SC, TN, TX, VA, and WV) formed to permit out-of-state students to major in selected programs at participating institutions while paying in-state tuition rates. Each ACM state outside of Alabama typically allows its residents to participate in the University's programs through ACM.

When it has been determined that UAH offers the desired program through the Academic Common Market, applicants should initiate application procedures by contacting his/her home state's Commission on Higher Education (or the equivalent office) and requesting permission to pursue the desired program at UAH. Additional information and a listing of contacts by state may be obtained from the Southern Regional Education Board's website (<http://www.SREB.org>). Under the heading "Programs and Services" select Academic Common Market.

Course Placement

Course Placement and Placement Testing

All students who are beginning college-level course work in **English**, **Mathematics**, **World Languages and Cultures**, and **Chemistry** are placed at the level best suited to their academic preparation and background. Initial placements are determined by a combination of factors depending on the subject area. ACT scores and high school grades determine placement in English. Students who were placed into EH 101S may opt to take the Composition Placement Test for entry into EH 101. Students may call Testing Services at 256.824.6725 to schedule an appointment to take the Composition Placement Test. This test may only be taken once.

ACT scores, AP Calculus exam scores and/or previous college level mathematics courses (which have been accepted by the Math Department for transfer credit) determine placement in Mathematics. Students who have no means of math placement can take the Mathematics Placement Test. See here (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) for online test registration. This test may be taken twice.

ACT Math scores determine placement in Chemistry.

Students with prior knowledge of French, German, or Spanish may demonstrate competence at an advanced level in five ways:

1. performance on a computer based placement test,
2. high school coursework,
3. CLEP examination,
4. AP examination, or
5. native language experience.

Students should contact the World Languages and Cultures department at 256.824.6871 or 256.824.1022 to inquire about their placement policies.

Students will be notified at the time of the tests when they can expect to receive the test results. There is no charge for the Chemistry Placement Test, Composition Placement Test, Foreign Language Placement Test or the Mathematics Placement Test. If a student has not received initial course placements before enrollment, he or she should contact the Office of Admissions.

Credit by Examination

UAH recognizes credit by examination and credit for several types of out-of-class experiences. Credit hours earned by examination and/or out-of-class experiences are not considered UAH institutional coursework, and therefore, may not be applied towards fulfillment of:

- the minimum of 50 percent of the coursework required to earn a bachelor's degree that must be earned at a bachelor's degree granting institution (four-year college or university)
- the minimum of 25 percent of the coursework required for the degree that must be earned in residence at The University of Alabama in Huntsville

There are four alternatives by which a student may gain credit through examination at UAH:

1. departmental examinations,
2. the Advanced Placement (AP) Program,
3. the College Level Examination Program (CLEP), or
4. International Baccalaureate (IB).

Credit by examination is not granted in the following cases:

1. if a student has been enrolled in a comparable course for more than three weeks,
2. to remove a failure already recorded for a course, or
3. to satisfy the residency requirement for graduation.

Credit by Department Examination

Departmental examinations for credit in specific courses may be given by a department upon application by the student and with the approval of the Department Chair. Students may apply for such a test if they have taken college-level work in secondary school, in a non-collegiate class or on a tutorial basis, or through private study. Credit, if awarded, will be recorded without grades or quality points and will not, therefore, be included in calculation of the grade point average. The amount of credit allowable through departmental examinations is determined by the appropriate academic dean and the department chair concerned.

Departments offering credit by examination on tests constructed by the department:

Biological Sciences	Contact Department Chair
Civil Engineering	CE 211, CE 284
Computer Science	All 100 and 200 level courses
Electrical and Computer Engineering	CPE 211
Foreign Languages	Contact Department Chair
Mechanical and Aerospace Engineering	MAE 211
Music	MU 100, MU 201, MU 203
Philosophy	PHL 103, PHL 320
Psychology	PY 300, PY 302

Advanced Placement Program

Several UAH departments award credit to students who have earned designated scores on Advanced Placement (AP) Program examinations of the College Entrance Examination Board. AP examinations are usually taken at the end of an AP-designed course of study in high school. If awarded, credit will be recorded without grades or quality points and will not, therefore, be included in calculation of the grade point average. Students should apply for credit through the Office of the Registrar. Official scores may be requested at collegeboard.org. UAH AP code: 1854. Scores presented on transcripts from other institutions cannot be evaluated. To view AP Exam scores and the equivalent credit please visit <https://www.uah.edu/admissions/undergraduate/admitted-students/ap-ib> (<https://www.uah.edu/admissions/undergraduate/admitted-students/ap-ib/>)

Math Placement Table

Fall 2021

Math ACT	Math SAT	Placement Test	AP Calculus Test Score	Placement	Equivalent Math Course (dependent on major)
0-19	480 or less	<25%	NA	Level 0	MA 107S, MA 110S, MA 112S
20-24	480-570	>25% and <50%	NA	Level 1	MA 107, MA 110, MA 112
25-26	580-610	>50% and <75%	NA	Level 2	MA 113, MA 115, MA 120
27-36	620-800	>75%	NA	Level 3	MA 171
NA	NA	NA	3 (either AB or BC test)	NA	MA 172 (credit for MA 171)
NA	NA	NA	4 or 5 (only the BC test)	NA	MA 201 (credit for MA 172)

Effective Spring 2022

Math ACT	Math SAT	Placement Test	AP Calculus Test Score	Placement	Equivalent Math Course (dependent on major)
21 or lower	490 or lower	<40%	N/A	Level 0	MA 107S, 110S, 112S
22-24	500-590	>40% and <59%	N/A	Level 1	MA 107, 110, 112
25-27	600-630	>60% and <79%	N/A	Level 2	MA 113, 115, 120, 171S
28 or higher	640-800	>80%	N/A	Level 3	MA 171

Please note that the equivalent mathematics course is the course that the student must enroll in based upon placement.

College Level Examination Program (CLEP)

The College Level Examination Program (CLEP) is a national program under which a student can receive credit for college level achievement. Anyone who has practical knowledge in an area through independent study, work experience, cultural exposure, or intensive reading, may take these tests. The policy for CLEP credit varies with each institution. The policies listed herein are those of UAH. See www.uah.edu/testing (<http://www.uah.edu/testing/>) for test dates, fees, and registration.

Credit by CLEP examination is allowed if the appropriate academic department has approved the CLEP test for use by the University. Credit awarded for CLEP examinations will be recorded on the student's record without grades or quality points and will not, therefore, be included in calculation of the grade point average. If a student does not pass a CLEP test, no record is placed on his or her transcript. Examinations may be retaken six months after initial testing.

Students should check with their program of study and their academic advisor to determine which, if any, CLEP examinations they may take to satisfy either free elective or degree requirements.

Listed below are UAH courses in which a student may receive CLEP credit, along with specific CLEP test titles and minimum score requirements.

Course Number	CLEP Subject Test Title	Minimum Score Required
Composition and Literature		
EH 101	College Writing I	50 and proficient performance on College Composition Modular Essay
EH 102 ¹	College Writing II	65 and superior performance on College Composition Modular Essay
Science		
CH 121, CH 123, CH 125, CH 126	General Chemistry I & II	48 (Recommended student take the Chemistry Placement Test first)
World Languages and Cultures		
WLC 101F	Intro Foreign Lang I: French	48

WLC 101F - WLC 102F	Intro Foreign Lang I: French & Intro Foreign Lang II: French	50
WLC 101G	Intro Foreign Lang I: German	48
WLC 101G - WLC 102G	Intro Foreign Lang I: German & Intro Foreign Lang II: German	50
WLC 101S	Intro Foreign Lang I: Spanish	48
WLC 101S - WLC 102S	Intro Foreign Lang I: Spanish & Intro Foreign Lang II: Spanish	50
History and Social Science		
HY 103	World History to 1500	56 (plus A/B on departmental essay)
HY 104	World History since 1500	56 (plus A/B on departmental essay)
HY 221	United States to 1877	60 (plus A/B on departmental essay)
HY 222	United States since 1877	60 (plus A/B on departmental essay)
SOC 100	Intro to Sociology	50
PSC 101	Intro to American Government	50 (with essay)
PY 101	General Psychology I	54
Business		
ACC 211	Princ of Financial Accounting	65
ECN 142	Principles of Macroeconomics	50
ECN 143	Principles of Microeconomics	50

¹ Students who have already completed EH 101 or a comparable course are not eligible to take the CLEP test for EH 102. CLEP tests must be taken in a student's first term.

International Baccalaureate (IB)

The University of Alabama in Huntsville recognizes International Baccalaureate (IB) credit with a score of 5, 6, or 7 on the higher-level examinations. IB score reports should be sent to the UAH Office of Admissions for evaluation. Additional credit may be awarded on a course by course basis as approved by the department. Some departments may award credit based on the subsidiary examinations. The academic unit responsible for the student's program of study will determine the application of credits toward specific degree requirements. If awarded, credits will be recorded without grades or quality points, and will not, therefore, be included in the calculation of grade point average.

International Baccalaureate Course	Higher Level Exam Score	Semester Credit	UAH Course Equivalent	Comments
Anthropology	5-7	3	SOC 105	
Art History	5-7	6	ARH 100, ARH 101	
Art Studio	5-7	6	ARS 123 & ARS 140 or ARS 160 & ARS 260	Depending on Portfolio
Biology	5-7	8	BYS 119, BYS 120	
Chemistry	5-6	4	CH 101, CH 105	
	7	8	CH 101/CH 105, CH 201/CH 205	
Computer Science	5-7	3	CS 100	
Economics	5-6	3	ECN 142	
	7	6	ECN 142, ECN 143	
English	5-6	3	EH 101	
	7	6	EH 101, EH 102	
Geography	5-7	3	AES 110	
History, US	5-7	6	HY 221, HY 222	
History, World	5-7	6	HY 103, HY 104	

Languages: French, German, 5-7 Spanish		15	WLC 101F, WLC 101G, WLC 101S, WLC 102F, WLC 102G, WLC 102S, WLC 201F, WLC 201G, WLC 201S, WLC 202F, WLC 202G, WLC 202S, WLC 301F, WLC 301G, WLC 301S
Mathematics	5-6	4	MA 171
	7	8	MA 171, MA 172
Music	5-7	3	MU 100
Philosophy	5-7	3	PHL 101
Physics	5-7	8	PH 101, PH 102
Psychology	5-7	6	PY 101, PY 102
Theater Arts	5-7	3	TH 122

Instructional and Testing Services

Maria Bricker, Assistant Director

225 Wilson Hall

Telephone: 256.824.6725

Email: testing@uah.edu

Website: www.uah.edu/testing (<http://www.uah.edu/testing/>)

Instructional and Testing Services provides high-quality test administration and assessment services for UAH faculty and students. It subscribes to and abides by the professional standards and guidelines for post-secondary test centers, as adopted by the National College Testing Association. Instructional and Testing Services offers a variety of services for UAH instructors and students including Online Learning exams, proctoring make-up exams, and deferred finals.

Dual Enrollment Program

Dual Credit:

Several local school systems have an agreement with UAH permitting high school juniors and seniors to take classes at UAH that may count for both high school credit toward graduation and college credit toward a degree at the University. With the approval of their school officials, high school juniors and seniors, who meet regular UAH admission requirements and have at least a 2.9 high school academic GPA, may take classes at UAH and receive credit at both the high school and college level for UAH classes approved by the school system.

Dual Enrollment:

Academically talented high school students may apply to UAH to receive college credit upon the successful completion of approved courses. Students must be enrolled in high school and have a cumulative 2.9 high school academic GPA.

Applying for the Dual Enrollment program at UAH requires:

- a completed Dual Enrollment application with approved signatures from a high school official as well as the student's parent or guardian
- the \$30 non-refundable application fee (fee waivers available)
- an official transcript of high school work

First Year Students

Requirements for High School Graduates

This information pertains to applicants who desire admission as beginning freshman students after graduation from high school and who have not attended an accredited postsecondary institution (excluding Dual Enrollment or Dual Credit coursework). International students should refer to the section on International Student Admissions in addition to this section.

Required Documents

Application for Admission

The application for admission and a nonrefundable \$30 fee payable to the University of Alabama in Huntsville should be submitted as soon as possible after the beginning of the senior year. The \$30.00 application fee must be in U.S. currency, drawn on a U.S. bank. This fee may also be paid via MasterCard, Visa, or American Express while applying online.

The preferred time for receipt of applications for the fall semester is the preceding August - December 1st. The fee may be waived for applicants who can document that they have received a fee waiver because of economic need as determined by the College Board (SAT) or the American College Testing Program (ACT). It is the policy of the University not to defer or waive other application fees.

For more information please see the Undergraduate Admissions (<https://www.uah.edu/admissions/undergraduate/>) page.

Admission Requirements

Admission to the University of Alabama in Huntsville requires graduation from regionally accredited high schools or completion of the General Education Diploma (GED), certain high school academic units, a cumulative high school grade point average in those academic units, and test scores as outlined below.

Secondary School Record

An official high school transcript (sent by the high school directly to the Office of Admissions) reflecting work completed from the beginning of the 9th grade through the 12th grade is required.

College Transcripts

Students who have registered for course work at community colleges, four-year colleges, or universities through dual enrollment or non-degree student status must submit official transcripts from each post-secondary institution attended. Transcripts are considered official when they are sent from a college or university directly to the Office of Admissions and contain an official seal and signature. Transcripts bearing the statement, "Issued to Student," or transcripts faxed or submitted by applicants are not considered official.

Test Scores

The examination offered by the American College Testing Program (ACT) or the Scholastic Assessment Test (SAT) administered by the College Entrance Examination Board is required of all applicants for freshman admission.

Suggested High School Course Units

The Office of Admissions suggests that applicants should earn four units of English; three units of mathematics, (suggested courses include Algebra I, Algebra II, and Geometry. Trigonometry is also highly suggested by the College of Engineering and recommended by all other colleges); three units of natural science; four units of social studies/social sciences (includes history, civics, political science, economics, sociology, psychology, and geography), and four units of electives that may include courses such as foreign language, computer programming, religion, philosophy as well as higher-level science and math courses. These are suggested courses and questions concerning this information should be directed to the Office of Admissions.

English Language Proficiency Requirements

Applicants must demonstrate proficiency in the English language. Applicants whose first language is other than English should refer to the section (<https://www.uah.edu/admissions/undergraduate/apply-for-admission/international/>) on English language requirements for nonnative speakers.

Academic Qualifications

Each applicant is evaluated based on individual merit and demonstrated success in a rigorous academic environment. High school coursework, grade point average and ACT/SAT scores are weighed heavily; however, these criteria do not constitute the entire foundation for an admission decision. An applicant with a grade point average of 2.9 and a composite score of 20 on the ACT or equivalent SAT, for example, is considered a strong candidate for admission.

UAH will not require new freshman students to submit an ACT or SAT score when applying for admission for the Spring 2022, Summer 2022, or Fall 2022 terms. On the admissions application, students will have the option to select if they wish to have test scores considered for admission and scholarships purposes. Students who feel their ACT or SAT test scores accurately reflect their quality of work in high school are encouraged to submit test scores and not apply test-optional.

Learn more about the Test-Optional Policy at [uah.edu/test-optional](https://www.uah.edu/test-optional).

Home-Schooled Applicants

Homeschooled high school students are reviewed for admission and scholarships at UAH following the same criteria used for students attending public and private high schools. Admissions decisions will be based on grades and test scores earned within the student's first four years of high school enrollment.

To be considered for admission homeschooled students completing an accredited homeschool program must submit an official transcript that includes the student's academic record beginning with grade nine and must be signed by an administrator. If necessary, descriptions of each course completed, textbooks used, and the teaching credentials of the homeschool teacher may be requested.

Homeschooled students completing a non-accredited or self-designed homeschool program are required to provide a full academic record beginning with grade nine using the UAH Non-Accredited or Self-Designed Homeschool Transcript Template. More information can be found here (<https://www.uah.edu/admissions/undergraduate/apply-for-admission/freshmen/>).

General Education Development (GED) Recipients

Persons who have not graduated from high school may be admitted on the basis of a satisfactory score on the GED test. A score of 170 or higher on each section is required for regular admission status. An official ACT or SAT score report may be requested. An official transcript of completed high school courses is also required. UAH is no longer a testing center for the GED program. Anyone seeking additional information or wishing to take the GED examination should visit GED.com (<https://ged.com/>).

General Information

Conditions of Admission

The Office of Admissions will notify the applicants of the admission decision. Admission to the University is often contingent upon the subsequent receipt of satisfactory and official college, university, or high school transcripts; verification of associate of arts or baccalaureate degrees; and verification of high school graduation. Failure to submit such documents before the end of the second week of class of the initial academic semester may result in the cancellation of admission.

Ownership of Submitted Documents

All credentials and documents submitted become the property of the University of Alabama in Huntsville. The originals or copies of the originals will not be returned to the applicant or forwarded to another institution, agency, or person.

Fraudulent Records

If it is found that an applicant has made a false or fraudulent statement or an omission on the application for admission, the residency statement, or any other accompanying documents or statements, the applicant may be denied admission. If the student is already enrolled when the fraud is discovered, the case will be adjudicated using the procedures specified for violations of the Student Code of Conduct and may result in the student's admission being rescinded and the student being dismissed from the University.

Disciplinary History Review

UAH is committed to ensuring a safe learning environment for all students, faculty, and staff. As a part of this commitment, students who indicate on their admissions application that they have pending criminal charges or have been convicted of a crime may be required to disclose information as a required step in the application process. In addition, students who have ever been expelled or dismissed from an educational institution for disciplinary reasons may also be required to disclose information as a required step in the application process. A previous conviction, pending criminal charges, or other expulsion or dismissal does not automatically bar admission to the University but does require review and evaluation.

International Students

International students are defined as any applicant who is not a U.S. Citizen or Permanent Resident. International applicants must meet all established requirements for admission from secondary schools or from other colleges and universities. International applicants should apply for admission at least six months in advance of desired attendance date in order to facilitate timely admission and enrollment.

An undergraduate international applicant must submit:

1. Completed **undergraduate international application** form.
2. Non-refundable application fee of \$50 USD.
3. Official copies of secondary school and college or university transcripts, including English translations, forwarded to The University of Alabama in Huntsville directly from the institution(s) attended or the approved accrediting agency. Personal copies are not accepted. English credits earned at international institutions will be evaluated by the Department of English at UAH after an admission decision is made.
4. Certificate of Foreign Credit Evaluation for all high school or college coursework done outside of the U.S. must be performed by an approved service. The evaluation should contain a document-by-document (high school) and course-by-course (college) description and a grade point average from each institution attended. Applicants have the responsibility to contact the evaluation agency directly and have the evaluation agency send the official evaluation report to UAH - copies will not be accepted by UAH. Examples of acceptable evaluation services are: Josef Silny & Associates, Inc.

International Education Consultants

www.jsilny.com (<http://www.jsilny.com/>)

info@jsilny.com

World Education Services, Inc.

www.wes.org (<http://www.wes.org/>)

Lisano International

<http://www.lisano-intl.com/>

SpanTran

<https://spantran.com/web/>

5. Official American College Test (ACT) scores or SAT scores should be sent directly to UAH from the testing service. Please note, ACT/SAT scores are not required for international undergraduate applicants. If available, students may submit scores to determine any scholarship eligibility.
6. Proof of English language proficiency. Please refer to the section on English language requirements for nonnative speakers below.
7. Students who will attend UAH in F or J student status are required to submit a certified affidavit of financial support and financial statements/bank records as evidence of sufficient finances to cover university and personal expenses while attending UAH.

Transferring From Another U.S. Institution

Individuals in the U.S. in F or J status who intend to transfer to UAH from a U.S. high school or college will receive, upon admission, a *transfer clearance* form that must be completed by the previous institution's designated official (international student advisor) and sent to the UAH Office of Admissions in order to be eligible for enrollment. It is also the responsibility of the admitted F or J student to communicate with the previous school's international student advisor to ensure that the SEVIS I-20 or DS-2019 record is transferred from the previous school to UAH prior to the start of the semester of enrollment.

English Language Requirements for Nonnative Speakers

All applicants whose native language is not English must demonstrate English language proficiency necessary to succeed in degree programs at UAH as indicated by completing at least one of the following standardized English proficiency exams with the respective minimum score listed below:

TOEFL (iBT): all sub-scores greater than or equal to 18

TOEFL Essentials: all subscores must be greater than or equal to 8

Pearson's Test of English: 54

IELTS: 6.0

Duolingo: 105

NOTE THAT OFFICIAL TEST SCORES SHOULD BE SENT DIRECTLY TO UAH FROM THE TOEFL OR IELTS TESTING SERVICE.

*iBT = internet-based TOEFL; IELTS = International English Language Testing System

Health and Immunization Policies

Student Health Insurance

International students are required to purchase the UAH student health insurance and will be assessed the insurance premium each semester upon enrollment in classes.

Immunizations

Students must meet immunization requirements set by the UAH Student Health Center. More information can be found at <http://www.uah.edu/admissions/undergraduate/apply-for-admission/international>.

Residency

UAH Resident/Non-Resident Tuition Fee Guidelines

Introduction

All students registering at The University of Alabama in Huntsville (UAH) who do not demonstrate, by presenting satisfactory evidence, that they are "resident students" will pay a "non-resident student" tuition. "Non-resident student" tuition will be at least twice the amount of "resident student" tuition. The residency classification of students will be made at the time of their initial registration and will continue unchanged through all subsequent registrations until satisfactory evidence to the contrary is submitted at the time of any subsequent registration. An Application for Reclassification of Residence must be submitted to the Office of the Associate Vice President for Student Affairs no later than the last day of registration for the appropriate semester.

Demonstrating Alabama Residency

A resident student, for the purposes of this policy, is one who has established residency in Alabama and has maintained that status for at least one year immediately prior to the date of registration at any institution of higher education in the state. The policy of the Board of Trustees of The University of Alabama on non-resident tuition states that "residence" refers to that "single location at which a person resides with the intent of remaining there indefinitely as evidenced by more substantial connections with that place than with any other place." Students seeking to demonstrate that they are Alabama residents must certify to three facts:

1. that an address or location within Alabama is their residence,
2. that they intend to remain there indefinitely, and
3. that they have "more substantial connections" with Alabama than with any other state.

Though satisfying the location and statement of intent requirements are essential, demonstrating residency will depend upon the University's evaluation of the student's connections with the state. No single connection or combination will automatically result in a finding of residency. Moreover, even if one or more connections with Alabama exist, a person who is in Alabama primarily for the purpose of obtaining an education will be considered a non-resident. The Board policy lists the following as connections that may be considered:

1. Payment of Alabama state income taxes as a resident
2. Ownership of a residence or other real property in the state and payment of state ad valorem taxes thereon
3. Full-time employment (not temporary) in the state
4. Residence in the state of a spouse, parents, or children
5. Previous periods of residency in the state continuing for one year or more
6. Voter registration and voting in the state, especially registration occurring more than one year prior to the student's initial registration
7. Possession of state or local licenses to do business or practice a profession in the state
8. Ownership of personal property (e.g., automobile, boat, etc.) in the state and payment of state taxes thereon; possession of state license plates
9. Continuous physical presence in the state for a purpose other than attending school and except for temporary absences for travel, military service, temporary employment, etc.
10. Membership in religious, professional, business, civic, or social organizations in the state
11. Maintenance in the state of checking and savings accounts, safe deposit boxes, investment accounts, etc.
12. In-state address shown on selective service registration, driver's license, automobile title registration, hunting and fishing licenses, insurance policies, stock and bond registrations, last will and testament, annuities, retirement plans, etc.
13. Location within the state of the high school from which the student graduated

As stated above, a student will be classified as an Alabama resident only if the student is able to show that he/she became a resident one year or more prior to the date of registration at any institution of higher education in the state by identifying then existing, sufficient connections with Alabama.

Demonstrating Alabama Residency - Alternative Approach

A student who does not qualify for classification as a resident student under the foregoing requirements may possibly qualify if he/she (or his/her supporting person in the case of a minor) meets any one of the following requirements at the time of registration:

1. Is a full-time, non-temporary employee at UAH or is the spouse of such an employee
2. Is employed by UAH as a graduate student or fellow on at least a 0.5 FTE (half-time) basis
3. Is a full-time, non-temporary employee of some other employer within the state of Alabama, or can verify such employment beginning not more than 90 days after registration, or is the spouse of such employee

4. Is a resident of Bedford, Coffee, Franklin, Giles, Lawrence, Lincoln, Marion, Marshall, or Moore County in Tennessee and has been a resident of that County for at least one year preceding the date of registration. The requirements for a student to demonstrate that he/she is a "resident" of one of the foregoing counties shall be the same as set forth above with regard to demonstrating Alabama residency.

As used in these Guidelines, a "minor" refers to an individual who, because of age, lacks the capacity to contract under Alabama law. This means a single individual under age 19 and a married individual under age 18. A "supporting person" refers to either or both of the parents of a student, if they are living together, or, if the parents are divorced or living separately, then the parent providing the greater amount of financial support of the two (normally, the parent having legal custody). **"Non-temporary" employment means employment that is on-going and not seasonal or for a specific period of time or for the express purpose of financing the student's college education.**

Rules for Veterans and U.S. Service Members of the Uniformed Services (Army, Navy, Air Force, Marine Corps and Coast Guard) and commissioned officers of NOAA and the PHS

The following individuals shall be charged a rate of tuition not to exceed the in-state rate for tuition and fees purposes:

- Anyone using educational assistance under the Survivors' and Dependents' Educational Assistance Program (Chapter 35), also be charged the resident rate as outlined in Public Law 117-68. Effective for courses and terms beginning after August 1, 2022.
- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill® – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in Alabama while attending a school located in Alabama (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in Alabama while attending a school located in Alabama (regardless of his/her formal State of residence).
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must be using educational benefits under either chapter 30 or chapter 33, of title 38, United States Code.
- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in Alabama while attending a school located in Alabama (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 G.I. Bill benefits (38 U.S.C. § 3319) who lives in Alabama while attending a school located in Alabama (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty.
- Anyone using educational assistance under chapter 31, Vocational Rehabilitation/Employment (VR&E), also be charged the resident rate. Effective for courses and terms beginning **after March 1, 2019**, a public institution of higher learning must charge the resident rate to chapter 31 participants, as well as the other categories of individuals described above. When an institution charges these individuals more than the rate for resident students, VA is required to disapprove programs of education sponsored by VA.
- The policy shall be read to be amended as necessary to be compliant with the requirements of 38 U.S.C. 3679(c) as amended.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill>.

Special Student Status

Non-degree Students

Eligibility

A general Non-Degree seeking student is one who is not currently enrolled in or pursuing a degree at another institution and who desires to enroll at UAH for one or more terms to take certain advanced coursework for personal or professional growth. Any adult who has completed high school or completed the GED with a minimum score of 170 at least two calendar years prior to the application term may apply for admission as a non-degree student. Credits earned or courses audited as a non-degree student are recorded on the student's permanent record. As appropriate, credit courses will be applied toward a regular undergraduate degree program when the individual qualifies for admission as a regular student. A student enrolled as a non-degree student must satisfy course prerequisites for each course taken and may be required to submit official transcripts from any prior collegiate institutions attended to show satisfactory completion of prerequisites. International students attending UAH on a student visa are not eligible for non-degree status. A student whose first language is other than English must demonstrate English language proficiency. See the section (<https://www.uah.edu/admissions/undergraduate/apply-for-admission/international/>) on English language requirements for nonnative speakers.

Exceptions

Several factors are considered when determining eligibility as a Non-Degree Student. Students may be more appropriately classified in other admission categories as outlined below:

- Students who have not yet graduated from high school must apply for admission via Dual Enrollment (p. 20).
- A student who has completed high school or earned at least a 170 on each section of the GED, but has not yet enrolled in college coursework, or a student who has graduated from high school or earned a GED at least two calendar years prior to the term of application for non-degree admission must apply as a degree-seeking first-year/freshman student.
- Students who have earned a bachelor's degree previously should apply as a Post-Baccalaureate student, which is a special category of Non-degree seeking students.

Enrollment

Non-Degree-seeking students who have attended another college or university must have an official transcript from the last school attended sent to the Office of Admissions. The student must be in good academic standing at the last institution attended, if the application is submitted within one year of last enrollment. Applicants who have not attended another college or university must submit an official high school transcript, including graduation date, or an official GED test report to the Office of Admissions.

Once admitted as a non-degree student, the student may only register for a maximum of 12 semester hours per term. Only 12 semester hours earned as a Non-Degree seeking student can be used toward an undergraduate degree at UAH. Please note that admission as a Non-Degree seeking student does not imply admission to an undergraduate or graduate degree program.

Non-Degree-seeking students are generally considered casual course takers and as such have the lowest priority in class registration. Enrollment in courses will be on a space-available basis, and degree-seeking students shall have priority should there be a wait-list. If a course has prerequisites that the student has not met, permission must be granted by the instructor before enrollment in the course. Non-degree students may provide evidence of meeting course prerequisites by providing an unofficial transcript to the appropriate academic advisor or Registrar staff.

A student enrolled in this category is subject to the same periodic review of his or her record as a regular student and is subject to the University's regulations regarding scholastic probation, dismissal, and reinstatement. (See Academic Policies and Procedures (p. 877).)

Non-Degree students cannot become candidates for a degree, be eligible for honors or hold officer positions in student organizations unless and until they reapply and are admitted as regular degree-seeking students. At such time, the student shall submit official transcripts from all institutions previously attended and meet regular admission standards.

Non-Degree students generally are not eligible for financial aid. It is recommended that applicants contact the Office of Financial Aid at 256.824.6650 for more information and to verify eligibility.

Students who are currently enrolled at other colleges may apply for admission as non-degree students to take credit classes that will count toward a degree at their home institution. A completed application, a non-refundable \$30 application fee, and an Official Transcript from the current college are required. This verifies eligibility to return to the student's home institution and verifies the home college will accept the UAH courses for degree requirements. Students should satisfy UAH course prerequisites for each course taken and may be required to submit other official transcripts showing satisfactory completion of prerequisites.

Post-Baccalaureate

Eligibility

A Post-Baccalaureate student is one who has already earned a bachelor's degree and who desires to enroll at UAH for one or more terms to take certain advanced coursework for personal or professional growth. In addition to the application and non-refundable application fee, applicants must submit to the Office of Admissions an official transcript from the college or university from which the baccalaureate degree was earned.

Exceptions

Students who have already earned a bachelor's degree and wish to enroll as degree-seeking students should apply as Second Bachelor's applicants. These applicants must have a minimum cumulative grade point average of 2.0 and have all official transcripts of coursework attempted sent to the UAH Office of Admissions.

Please note that admission as a Post-Baccalaureate student does not imply admission to an undergraduate or graduate degree program.

Enrollment

As with all Non-Degree seeking students, Post-Baccalaureate students are generally considered casual course takers and as such have the lowest priority in class registration. Enrollment in courses will be on a space-available basis, and degree-seeking students shall have priority should there be a wait-list. If a course has prerequisites that the student has not met, permission must be granted by the instructor before enrollment in the course. Non-Degree students may provide evidence of meeting course prerequisites by providing an unofficial transcript to the appropriate academic advisor or Registrar staff.

Post-Baccalaureate students are limited to 12 semester hours each term. Additionally, a maximum of 24 semester hours earned as a Post-Baccalaureate student can be applied toward a second bachelor's degree should a student decide to apply as a degree-seeking student.

A student enrolled in this category is subject to the same periodic review of his or her record as a regular student and is subject to the University's regulations regarding scholastic probation, dismissal, and reinstatement. (See Academic Policies and Procedures (p. 877)).

Post-Baccalaureate students cannot become candidates for a degree, be eligible for honors or hold officer positions in student organizations unless and until they reapply and are admitted as regular degree-seeking students under the Second Bachelor's application category. At such time, the student shall submit official transcripts from all institutions previously attended and meet regular admission standards, which includes a minimum cumulative grade point average of 2.0 in all attempted coursework.

Post-Baccalaureate students generally are not eligible for financial aid. It is recommended that applicants contact the Office of Financial Aid at 256.824.6650 for more information and to verify eligibility.

Re-Admit Students

A student who has not attended UAH for one or more semesters and who wishes to return should apply for admission through the Undergraduate Admissions Department. Returning students are held to the same requirements and university policies as newly admitted students. The Office of Admissions encourages Readmit students to contact their academic advisor to determine whether curriculum or degree requirements have changed since their last enrollment. Readmit students are required to submit official transcripts from any college/university attended since leaving UAH. Applicants must hold a cumulative 2.0 GPA in coursework completed since attending UAH. Applicants must also be in good standing at all previously attended colleges/universities.

Transfer Students

Individuals who have completed 24 semester hours of transferable **academic** credit from regionally accredited colleges or universities with a 2.0 or better GPA may be admitted to UAH as transfer students without having to submit high school transcripts, ACT or SAT scores. Transfer students must submit official transcripts from all colleges previously attended. Transfer admissions decisions will be based on a full evaluation of transcripts from all colleges and universities attended with emphasis given to those courses in which the subject matter is acceptable and relevant to the desired UAH degree program. Applicants must be in good standing at their previous institutions and have a minimum overall 2.0 GPA as well as a minimum 2.0 GPA in all courses transferable to UAH to be considered for admission.

Applicants must demonstrate proficiency in the English language. Applicants whose first language is other than English should refer the section (<https://www.uah.edu/admissions/undergraduate/apply-for-admission/international/>) on English language requirements for nonnative speakers.

Students who have already completed a bachelor's degree and wish to earn a Second Bachelor's degree at UAH must meet regular transfer admission requirements. A student who is currently on suspension or dismissal from another college or university is not eligible for admission until his or her suspension period has ended or until the student is otherwise eligible to return to the prior institution.

Admission to the upper-division of the College of Nursing is an action independent from admission to the University. Students interested in pursuing the BSN should refer to the academic college section of this catalog for more information.

Evaluation of Transfer Credit

The University of Alabama in Huntsville follows the practices specified in Transfer Credit Practices of Designated Educational Institutions, published by the American Association of Collegiate Registrars and Admissions Officers, in evaluating college-level courses from other recognized colleges and universities for the purpose of transfer of credit to UAH. Transfer credit evaluations will be completed as early as possible, but no later than the first semester of enrollment.

Credits from an institution that is not yet accredited but has acquired candidate status from a regional accrediting agency are provisionally eligible for transfer to UAH. In order to obtain full credit for courses accepted as provisional credits, students must complete 30 semester hours at UAH and earn a "C" or better in each course attempted. Transfer credit will not be posted until this requirement has been met. Students with provisional credits should contact the Registrar upon completion of 30 semester hours at UAH.

Courses completed at unaccredited and non-candidate institutions are not accepted for credit at UAH. Credits for education completed in non-collegiate settings that have been evaluated and recommended for credit by the American Council on Education are accepted as transfer credit at UAH. As a member of Service Members Opportunity Colleges, UAH is committed to easing transfer of relevant course credits and crediting learning from appropriate military training and work experiences.

The completion of the Freshman Writing/Composition requirement at another regionally-accredited college or university will satisfy UAH's Freshman Composition 6 credit-semester hour requirement (Freshman Composition I and II). For situations where this requirement was satisfied by less common approaches such as CLEP or credit by examination, please contact the chair of the English department.

Acceptance of transfer credit by the Admissions Office and application of credits to a specific degree program by the academic department are two separate and distinct processes. Consult an academic advisor for degree applicability within the desired degree program.

Credits earned in quarter hours will be converted to semester hours on the basis of two-thirds of one semester hour for each quarter-hour.

An individual who enrolls as a non-degree student and later decides to work toward a degree must apply for admission as a degree-seeking student and request an evaluation of transfer credits. The application of such accepted credits to a particular program of study will be made and approved at the time of admission to the desired degree program.

Transfer Students from Alabama Junior/Community Colleges

A student transferring from an Alabama junior/community college may choose to fulfill the degree requirements of the UAH catalog which was in effect at the time of the student's initial enrollment at the Alabama junior/community college, provided that the date does not exceed the seven-year limit. (See the time limits section of the catalog.) This policy enables students enrolled at Alabama junior/community colleges to plan degree programs effectively and to be assured that degree requirements specified for UAH students will be equally applicable, within specified limits, to transfer students.

UAH participates in the Alabama Articulation Agreement. Students intending to transfer to UAH from Alabama junior or community colleges are encouraged to consult with their advisors, the UAH Office of Admissions, and obtain a STARS guide. This guide is also available via the Internet at <http://stars.troy.edu>. When planning their programs of study, this guide will identify courses for their major and will show equivalencies for community college courses.

A maximum of 50% of a degree program may be earned from a junior, community, or two-year college. Requests for exceptions must be in writing and approved by the dean of the college in which the student is enrolled.

Visiting Student Program

A cooperative arrangement exists with Alabama A&M University, Calhoun Community College, Oakwood University and The University of Alabama in Huntsville. Under this arrangement, a student at any of the participating institutions may request permission to attend a course at one of the other schools. Conditions governing the granting of permission include the following:

1. The student must be a full-time student or a full-time University employee who is a part-time student. The semester hours to be taken at the host institution shall be counted in determining the full time or part-time status of the student.
2. The course desired must be unavailable at the student's home institution.
3. Visiting students are normally limited to one undergraduate course a semester at the host institution except where the second course is a laboratory required to accompany the first course or the second course is a one-semester-hour course in basic military science.
4. The student must have an overall C average, and meet all prerequisites of the host institution.
5. The student's request must be approved by his or her advisor and other appropriate personnel.
6. Students will be admitted by the host institution to a course based upon availability of space for the visitor, to be determined by the class enrollment on the last day of regular registration.

Any student interested in participating in the Visiting Student Program should contact the Registrar's Office for information regarding the procedures to be followed.

Charger Foundations

Welcome to Charger Foundations, a set of courses dedicated to helping you engage with new ideas, complex situations, and diverse perspectives. Encompassing almost one-third of your undergraduate curriculum, the courses of Charger Foundations will enhance your skills, expand your horizons, and encourage you to build on the core values of the Charger Nation: integrity, respect, diligence, excellence, inclusiveness, and diversity.

The development of competencies associated with these values begins with Charger Foundations coursework. Below, you will see a matrix providing an overview of the competencies central to your Foundations work and aligned with the Alabama General Studies Commission (AGSC) Area Requirements.

Core Competencies

The University of Alabama in Huntsville is committed to four core competencies that serve as the foundation for undergraduate general education. These four core competencies follow.

1. Effective communication (Area I)
2. Engagement with questions of values, ethics, and aesthetics as represented in literature, the humanities, and the arts (Area II)
3. Understanding of the scientific method and application of quantitative or inductive reasoning (Area III)
4. Understanding of human behavior and economic, social, and political structures as represented in the disciplines of history and the social and behavioral sciences (Area IV)

These core competencies are consistent with those of the State of Alabama mandated articulation agreement under ACT 94-303, which ensures the transferability of credits from the State's two-year institutions to its four-year institutions.

Requirements by College

Colleges of Arts, Humanities, and Social Sciences, Business, Education, Nursing, Professional and Continuing Studies, and Science (41 hours)

AGSC Area	Categories	Required Hours
I	Freshman Composition	3-6 hours
II ¹	Fine Arts	3 hours
	Humanities (literature)	3 hours
	Humanities (non-literature)	3 hours
	Humanities/Fine Arts	3 hours
III	Mathematics	3-4 hours
	Natural Sciences (lab)	8 hours
IV ¹	History	3 hours
	Social & Behavioral Sciences (non-history)	6 hours
	History/SBS	3 hours

¹ Take either 1 EH (Literature) + 2 HY (History) or 2 EH (Literature) + 1 HY (History). Take **no more than six hours** in a single discipline in Area II or Area IV.

College of Engineering (35 hours)

AGSC Area	Categories	Required Hours
I	Freshman Composition	3-6 hours
II ¹	Fine Arts	3 hours
	Humanities (literature)	3 hours
	Humanities	3 hours
III	Mathematics	3-4 hours
	Natural Sciences (lab)	8 hours
IV ¹	History	3 hours
	History/SBS	6 hours

¹ Take either 1 EH (Literature) + 2 HY (History) or 2 EH (Literature) + 1 HY (History). Take **no more than six hours** in a single discipline in Area II or Area IV.

Pathways through Charger Foundations will vary by college and major. Confer with your academic advisor to select appropriate Foundations courses each semester.

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	

TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	

MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	

PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take **no more than six hours** in a single discipline in Area II or Area IV.

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 - Art, BA - Art Studio Concentration (p. 56)
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College of Arts, Humanities, and Social Sciences

Location: Morton Hall 116

Telephone: 256.824.6200

Email: dean-ahs@uah.edu (dean-la@uah.edu)

Dean: Sean Lane, Ph.D.

Mission

The College of Arts, Humanities, and Social Sciences is committed to excellence in teaching, research, and service in the following disciplines: fine arts, humanities, social and behavioral sciences, and teacher education. For its own majors, as for those in the professional schools, the College strives to provide superior liberal arts education characterized by close interaction between teachers and learners. Its goals are to impart to each student a spirit of intellectual curiosity, critical thinking, abilities in writing and oral communication, aesthetic awareness and creativity, familiarity with human history and behavior, knowledge of languages and cultures, and an understanding of the bases of ethical behavior and the duties of citizenship. Believing in the centrality of liberal learning to the mission of a university, the College is committed to maintaining a diverse community of teacher-scholars of the highest quality and to providing an environment that encourages personal and professional growth. It considers teaching and research mutually enriching activities and strives to make its knowledge and expertise available to professional programs on campus and to the educational needs of society. Through its graduates and programs, the College contributes to the cultural, intellectual, and economic growth of the state and nation.

Undergraduate Degrees and Programs

The College of Arts, Humanities, and Social Sciences awards the Bachelor of Arts degree as well as a Bachelor of Fine Arts degree in various studio art disciplines. A student's Program of Study must total at least 120 semester hours of coursework and is comprised of four components: 1) general education requirements, 2) a major, 3) either a second major, minor, or supporting cognate studies (if required) and 4) electives. The minimum requirement for a major is 30 semester hours of coursework with at least 21 semester hours at the 300 level or above. The minimum requirement for a minor is 18 semester hours of coursework with at least 12 semester hours at the 300-level or above. The cognate studies option must be formed from two or more closely aligned disciplines and must be comprised of at least 21 semester hours with at least 12 semester hours at the 300-level or above. Specific requirements of each major and minor are provided in the appropriate departmental section of the catalog. At least 36 semester hours of a student's Program of Study must be at the 300-level or above. Please note that at least 25% of a student's major and minor must be earned at UAH.

The College of Arts, Humanities, and Social Sciences offers programs in the following disciplines:

- Ancient and Medieval Studies (p. 37)
- Art, Art History, and Design (p. 38)
- Communication Arts (p. 96)
- English (p. 106)
- Film and Media Arts (p. 184)
- Global Studies (p. 125)
- History (p. 129)
- Justice and Equity Studies
- Music (p. 148)
- Philosophy (p. 187)
- Political Science (p. 195)
- Psychology (p. 203)
- Sociology (p. 218)
- Theatre (p. 225)
- User Experience (p. 235)
- Women's, Gender, and Sexuality Studies (p. 237)
- World Languages and Cultures (p. 240)
- Writing (p. 262)

Academic Advising in the College of Arts, Humanities, and Social Sciences

Academic advising strives to help you create plans that meet your educational and professional goals. We're here to guide you through the university while connecting you to appropriate resources that help keep you on track along the way. To make connections with advising easier, we now have specific advisors (<https://www.uah.edu/ahs/academic-advising/>) dedicated to your major. Your advisor is based on your first major. We will ensure that you progress through each of your degree programs.

The goals of academic advising include:

1. assisting students in planning academic goals
2. assisting students in their personal adjustment to the UAH campus
3. aiding students in the assessment of academic needs and in developing appropriate educational plans
4. explaining and clarifying graduation requirements as well as academic policies
5. facilitating student success

College of Arts, Humanities, and Social Sciences - Academic Advising

Morton Hall, Room 131

256.824.2867

cahs_advising@uah.edu

Office Hours: Monday-Friday, 8:15 AM-5:00 PM

Ancient and Medieval Studies Minor

The Ancient and Medieval Studies Minor allows students to appreciate ancient and medieval civilizations both as accomplishments worthy of study in their own right and for a better understanding of the modern world. This program provides an interdisciplinary framework for exploring topics that range from history of ideas and institutions to that of material culture and archaeology, literature, philosophy and languages.

- 25% of the minor must be earned at UAH
- A minimum GPA of 2.0 is required in the minor

Code	Title	Semester Hours
Requirements		
AMS 229	ANCIENT & MEDIEVAL WORLDS	3
Additional 18 hours from the courses below or courses approved by Director; 12 of these hours must be at the 300-level or above.		18
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
CM 408	CLASSICAL RHET THEORY	
EH 207	READINGS LITERATURE/CULTURE I	
EH 242	MYTHOLOGY	
EH 448	THE BIBLE AS LITERATURE	
EH 450	CHAUCE	
EH 451	ARTHURIAN ROMANCE	
EH 550	CHAUCE	
EH 551	ARTHURIAN ROMANCE	
HY 311	HISTORIC ARCHAEOLOGY	
HY 329	IMPERIAL ROME	
HY 331	WORLD OF MIDDLE AGES	
HY 384	ISLAMIC WORLD TO 1800	
HY 401	DAILY LIFE IN ANCIENT ROME	
HY 480	ROMANS&BARBARIANS LATE ANTIQTY	
HY 498	STUDIES IN HISTORY	
PSC 330	CLASSI POLITI PHILOSOPHY	
PHL 301	ANCIENT PHILOSOPHY	
WLC 101A	INTRO FOREIGN LANG I: ARABIC	
WLC 102A	INTRO FOREIGN LANG II: ARABIC	
Total Semester Hours		21

Art, Art History & Design

160-B Wilson Hall

Telephone: 256.824.6114
Email: art@uah.edu

Mission

The Department of Art, Art History & Design is an accredited institutional member of the National Association of Schools of Art and Design (NASAD). Our programs are dedicated to preparing students with the knowledge and skills necessary for pursuing lives as artists, designers, art historians and other professionals. Graduates will be creative, inquisitive, and well-rounded individuals, conscious of the important roles that artistic endeavor and intellectual pursuit play within their lives and throughout our culture. The department is an integral part of the interdisciplinary experience within the university and by virtue of its commitment to the highest standards in teaching, research, and service, is dedicated to supporting and strengthening the mission of the College of Arts, Humanities, and Social Sciences.

The department of Art, Art History & Design offers the following degree programs:

- BA in Art - Art Education Concentration (p. 48)
- BA in Art - Art History Concentration (p. 51)
- BA in Art - Art Studio Concentration (p. 56)
- BFA in Art - Digital Animation Concentration (p. 62)
- BFA in Art - Graphic Design Concentration (p. 67)
- BFA in Art - Painting/Drawing Concentration (p. 73)
- BFA in Art - Photography Concentration (p. 78)
- BFA in Art - Printmaking Concentration (p. 83)
- BFA in Art - Sculpture Concentration (p. 88)

Program

The Department of Art, Art History & Design offers courses in art studio and art history leading to a Bachelor of Arts (BA) in Art or a Bachelor of Fine Arts (BFA) degree in a particular art studio concentration (Digital Animation, Graphic Design, Painting/Drawing, Photography, Printmaking, or Sculpture).

For the BA, students can concentrate in Art Studio, Art History, or Art Education. The 51 semester hour Art Studio concentration allows a student to focus his or her upper-division studies on any of seven areas: digital animation, game design, graphic design, painting/drawing, photography, printmaking, or sculpture. In the 42 semester hour Art History concentration, students take a variety of courses exploring the visual culture of different regions and eras and complete their degree by writing a senior thesis. The Art Education concentration prepares students through coursework and an internship to become accredited teachers of art. It includes 54 hours of art and art history plus 40 hours of education credits and student teaching. The BA provides students with a solid foundation to pursue a career in the arts or a related field.

The BFA is the primary professional degree in Art Studio. In a BFA program, the goals are to develop the skills, concepts, and professional practices to pursue a career as an artist. It is also the preferred degree for students who plan to go on for a Master of Fine Arts (MFA) degree. This 78 semester hour major requires more studio courses than the BA and does not require a minor.

Students must apply for acceptance to the BFA program. The application, which is available in the department office, involves submission of a transcript (3.0 GPA required in Art History and Art Studio classes), two essays, and a portfolio of five pieces (one drawing, one 3-D piece, one work using color, and two additional pieces in the area of concentration). The BFA Review is typically done as a rising junior. Students must have completed all four foundation classes (ARS 123, 140, 160, 260), one 200-level (introductory) class, and one 300-level course in the concentration. It is required that the BFA Review be attempted before completing 54 credit hours (no more than 18 classes) in Art History (ARH) and studio art (ARS). Students who fall outside of these parameters due to special circumstances must consult with the department chair. The BFA Review is conducted mid-semester, in both fall and spring terms, and may be repeated once without special permission. Please see the BFA application for detailed requirements and consult with your advisor.

All BFA students must complete an exit requirement specific to their concentration. Students who are candidates for a BFA in fine arts concentrations (Painting/Drawing, Photography, Printmaking, and Sculpture) will mount a solo exit show. Those in Digital Animation and Graphic Design will complete a comprehensive portfolio review. See your faculty mentors for guidelines.

Transfer credit for equivalent coursework in Art Studio and Art History classes will be determined by the department chair. Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH. Art Studio or Art History minors transferring in must take at least six (6) semester hours of art courses at the 300 level or above at UAH.

Majors in Art, Art History, and Design

- BA in Art - Art Education Concentration (p. 48)
- BA in Art - Art History Concentration (p. 51)
- BA in Art - Art Studio Concentration (p. 56)
- BFA in Art - Digital Animation Concentration (p. 62)

- BFA in Art - Graphic Design Concentration (p. 67)
- BFA in Art - Painting/Drawing Concentration (p. 73)
- BFA in Art - Photography Concentration (p. 78)
- BFA in Art - Printmaking Concentration (p. 83)
- BFA in Art - Sculpture Concentration (p. 88)

Minors in Art, Art History & Design

- Art History (p. 93)
- Game Design and Development (p. 94)
- Art Studio (p. 95)
- Web Communication (p. 95)

ARH 100 - ARH SUR: ANCIENT-MEDIEVAL

Semester Hours: 3

Survey of Pre-historic to Medieval art. Course emphasizes study of cultural contexts that fostered art and introduces students to basic analytic tools and theories of art history. Very little in art is completely new. Learn about the visual traditions that shaped the culture we live in today.

ARH 101 - ARH SUR: RENAISSANCE-MODERN

Semester Hours: 3

Survey of the Major Western works of art produced since the Renaissance. Relates stylistic change to changes in historical and cultural contexts. Introduces students to basic analytic tools and theories of art history.

ARH 103 - ARH SUR: WORLD ART

Semester Hours: 3

Survey of visual culture in India, the Far East, the Americas, the Pacific, and Africa. Focuses on relationships among art, religious beliefs, politics, and cultural practices. Studying the visual traditions of other cultures fosters greater understanding as our world becomes more global. Use the analytical tools and theories of art history to foster understandings of global cultures.

ARH 120 - ARH SUR: SPECIAL TOPICS

Semester Hours: 3

Course allows for survey-style exploration of special topics in art history and related fields such as archaeology.

ARH 301 - ANCIENT GREEK ART

Semester Hours: 3

Art of ancient Greece from the Bronze Age to the death of Cleopatra. Focuses on relationships of art to philosophy, politics, religion, literature, and drama. Greek art and culture heavily influenced our education system as well as the appearance of cities from Washington, DC to Huntsville, AL. Prerequisites: ARH 100 and ARH 101.

ARH 302 - MEDIEVAL ART

Semester Hours: 3

Examines architecture, sculpture, manuscripts, metalwork, textiles, and stained glass from the fall of Rome to the Gothic era. In addition to a chronological study of the period, engage in case studies on courtship, warfare, religion, and cultural interactions that influenced practices today. Prerequisites: ARH 100 and ARH 101.

ARH 303 - RENAISSANCE ART

Semester Hours: 3

The Renaissance supposedly ushered in advances in arts, humanities, and sciences. This course looks at regional trends in Italy as well as the rest of Europe to see what is innovative about this era considered a high point in Western culture, rather than focusing on great masters. Prerequisites: ARH 100 and ARH 101.

ARH 304 - TWENTIETH CENTURY ART

Semester Hours: 3

Developments in European and American art from 1890 to World War II will be examined through historical, literary, philosophical, political, and social contexts and theories. This course guides the student in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 305 - ANCIENT ROMAN ART

Semester Hours: 3

Roman visual culture from the foundation of the city to its fall. Explore case studies such as the age of Augustus, Pompeii, Roman engineering, the Provinces, games and spectacle. Learn about the Roman legacy and consider its impact on modern Western Culture. Prerequisites: ARH 100 and ARH 101.

ARH 306 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

Course investigates why some cultures succeed and others fail. Examine factors that lead to collapse to address a question relevant to the contemporary world: How severe do internal stresses have to become before relatively minor climate shifts can trigger a widespread cultural collapse? Prerequisites: ARH 103 and ART major.

ARH 307 - IMPRESSIONISM & POST-IMP

Semester Hours: 3

European and American art from 1860 to 1900 examined through historical, political, social, philosophical, theoretical and literary perspective. This course guides the students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 309 - CONTEMPORARY ART & ISSUES

Semester Hours: 3

Major movements since World War II examined through historical, political, social, philosophical, and literary perspectives. Contemporary art theories will also be explored. Course guides students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisite: ARH 101.

ARH 310 - NINETEENTH CENTURY ART

Semester Hours: 3

European and American art from 1780 to 1860 examined through historical, political, social, philosophical, theoretical and literary perspectives. Course guides students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 311 - PHILOSOPHY OF ART

Semester Hours: 3

What is Art? This course explores and interrogates a wide range of contrasting aesthetic theories within the Western tradition, with particular emphasis on the relation between artistic expression and philosophical frameworks. Prerequisites: ARH 100 and ARH 101. OR ARH 100 and ARH 103. OR ARH 101 and ARH 103. ART Major.

ARH 320 - SPECIAL TOPICS IN ART HY

Semester Hours: 3

Developed based on student and faculty interest, special topics courses explore content and issues not currently emphasized in the curriculum. Courses may focus on a particular issue like Women in Antiquity or a particular genre such as Modern Architecture. Prerequisites: ARH 100, ARH 101, and ARH 309.

ARH 395 - INDEPENDENT STUDY

Semester Hours: 3

Directed, independent study on a topic prearranged with instructor, normally as an outgrowth of a 300-level art history course. Weekly mentoring meetings with instructor help student develop a workable thesis, conduct research, and manage a project that results in a well-argued paper.

ARH 400 - SENIOR THESIS

Semester Hours: 3

Culminating experience for students with an Art History concentration. With the help of a faculty mentor, student will choose a topic, conduct research, and construct a well-argued paper. Student will present this research to the faculty, displaying skills valuable in most careers.

ARS 123 - 2D DESIGN & COLOR THEORY

Semester Hours: 3

Introduction to the principles and elements of design and color theory. Assignments explore design concepts and an understanding of color. Course stresses the development of visual and manual skills, problem solving, critical thinking, and the tools and materials used in the making of art.

ARS 140 - 3D DESIGN

Semester Hours: 3

Course introduces students to fundamental principles pertaining to the creation of three-dimensional art and prepares them for more advanced processes. Processes include, but are not limited to, drawing for sculpture, model making, woodworking, and sewing.

ARS 160 - DRAWING: FOUNDATIONS

Semester Hours: 3

Introduction to principles, materials, and techniques of drawing. Observational drawing and exercises teach students visual skills and introduce aesthetics and artistic expression. Class covers visual and manual skills, problem solving, critical thinking, and the tools and materials artists use.

ARS 210 - GAME DESIGN: INTRODUCTION

Semester Hours: 3

This course is an introduction to the principles and processes of game design. Students will play, research, design, modify, and prototype tabletop games throughout the semester to gain a better understanding of game design. Prerequisite: ARS 160 or permission of instructor.

ARS 220 - ANIMATION: INTRODUCTION

Semester Hours: 3

Course is an introduction to the principles of 3D computer generated imaging including modeling, texturing, rigging, animating, lighting, and rendering, as well as production processes such as storyboarding, sound design, and editing that together provide a basic working knowledge of 3D CGI.

Prerequisites: ARS 160 and ARS 123 or permission of instructor.

ARS 230 - GRAPHIC DESIGN: INTRODUCTION

Semester Hours: 3

Introduction to graphic design theories, principles, and software. Instruction in the basics of graphic design through practical understanding of visual communication and logistics of advertising, conceptual thinking, and creative exploration. Course is a primer for the Macintosh platform. Prerequisites: ARS 123 and ARS 160.

ARS 240 - SCULPTURE: INTRODUCTION

Semester Hours: 3

Students will develop and explore their ideas using a variety of traditional and non-traditional tools, materials, and processes. Assemblage, subtraction, modeling, 3D modeling/printing, and casting processes will be addressed, preparing students for entrance into advanced coursework. Prerequisite: ARS 140.

ARS 250 - PHOTOGRAPHY: INTRODUCTION

Semester Hours: 3

Fundamentals and techniques of the digital camera, image capture, digital scanning, and image manipulation with Adobe Photoshop software. Basic printing and image preparation for the web and other media will also be explored. Basic Mac OS and/or Windows skills, and digital camera required. Prerequisites: ARS 123 and ARS 160.

ARS 260 - DRAWING: INTRODUCTION

Semester Hours: 3

Course further develops drawing skills through study and practice. Materials, design, and creative ideas are explored. Critical thinking and visual analysis are used in critique. Students continue to develop visual and manual skills, problem solving abilities, and the use of tools and materials. Prerequisites: ARS 123 and ARS 160.

ARS 270 - PAINTING: INTRODUCTION

Semester Hours: 3

Students learn basic painting techniques, materials, and mediums. Problem solving assignments use two-dimensional design and color theory concepts and practices. Students are required to observe and think critically for critique and discussion. Prerequisites: ARS 123 and ARS 160.

ARS 280 - PRINTMAKING: INTRODUCTION

Semester Hours: 3

Introduction to basic areas of printmaking, including planographic, intaglio, and relief processes. Expands 2-D design concepts, color theory, and drawing skills. Develops proficiency with printmaking tools and materials as well as critical thinking and problem solving skills. Prerequisites: ARS 123 and ARS 160.

ARS 311 - GAME DESIGN: SCRIPTING & DES I

Semester Hours: 3

This course introduces students with limited programming experience to video game scripting using a visual programming language. Students will learn tools and techniques to design and script their own video games. Prerequisites: ARS 210, and one of the following: CS 102, CS 103, CS 121. Or permission of instructor.

ARS 321 - ANIMATION: ORGANIC MODELING

Semester Hours: 3

This course will focus on organic mesh design and production as well as surface and lighting properties for creating portfolio quality, real-time, and pre-rendered 3D organic models.

ARS 322 - ANIMATION: 3D ANIMATION

Semester Hours: 3

Course explores fundamental animation principles (timing/spacing, overlap, squash/stretch, anticipation, etc) along with digital animation tools (rigging, inverse kinematics, keyframing, etc) to help students gain experience and a better understanding of the role of CG animators. Prerequisite: ARS 220.

ARS 324 - ANIMATION: TECHNICAL ARTS

Semester Hours: 3

Course will concentrate on areas of production that require both technical and art skill, often called technical art. Topics include in-depth rigging, automating workflows, simulations, writing custom tools, writing shaders, etc. Students will gain experience in a sought-after production role. Prerequisite: ARS 220.

ARS 325 - ANIMATION: HARD SURF MODELING

Semester Hours: 3

This course will focus on hard surface mesh design and production as well as material and lighting properties for creating portfolio quality, real-time, and pre-rendered 3D hard surface models. Prerequisite: ARS 220.

ARS 327 - ANIMATION; VISUAL STORY DEV

Semester Hours: 3

This course focuses on developing visual storytelling as a graphic language for storyboarding films and animations as well as creating comics and graphic novels. The principles of sequential art will be examined and applied to projects throughout the semester. This is a 2D course and is digital drawing intensive. Prerequisite with Concurrency: ARS 220.

ARS 328 - ANIMATION: CONCEPT ART

Semester Hours: 3

This class will cover the basics of concept art for the entertainment industry and related fields. Games, characters, and stories start out as ideas and concept art is how those ideas are visually developed, iterated, and refined before going into production. This course is digital drawing intensive. Prerequisite with Concurrency: ARS 220.

ARS 329 - ANIMATION: 2D ANIMATION

Semester Hours: 3

This course focuses on creating traditional and tweened 2D animations using current digital tools and techniques. The principles of animation will be examined through a variety of exercises and applied to main projects. This course is digital drawing intensive. Prerequisite with Concurrency: ARS 220.

ARS 330 - GRAPHIC DESIGN: PRINT MEDIA I

Semester Hours: 3

Course emphasizes creative exploration in design and layout. Students will learn intermediate methods of graphic design. Focus for this course is additional study in design, creative thinking, and industry software. Prerequisite: ARS 230.

ARS 332 - GRAPHIC DESIGN: WEB DESIGN

Semester Hours: 3

Beginning course in web design using HTML and CSS to build effective and creative websites with strong user-centric design. Understanding HTML and current best web design practices is essential to web design and development. Prerequisite: ARS 230.

ARS 333 - GRAPH DES: WATERCOLOR & DIG I

Semester Hours: 3

Graphic design from an illustration and fine arts perspective. Course explores different creative directions using current software in combination with traditional watercolor media. Students will learn how to handle watercolor, develop creative concepts, and use software to support their design. Prerequisite: ARS 230.

ARS 334 - GRAPH DES: WEB USER EXPER I

Semester Hours: 3

Course places emphasis on user experience, web animation, and application for the purpose of media development. This course focuses on the understanding of user experience and user interface design through the study of how consumers interact with media. Prerequisite: ARS 230.

ARS 335 - GRAPHIC DESIGN: TYPOGRAPHY I

Semester Hours: 3

Course studies type design and the usage of basic letterforms, typographic contrast, and hierarchy of information, major type families and characteristics, the history of typography design, creativity, and grid layout. Prerequisite: ARS 230.

ARS 340 - SCULP: FABRICATION I

Semester Hours: 3

Exploration of a variety of assemblage processes including wood, metal, and fabric construction. Emphasis is placed on idea development and investigating a wide range of forms and materials. Course instruction includes welding, CNC plasma cutting, advanced wood joinery, and wood bending. Prerequisite: ARS 240.

ARS 341 - SCULP: CARVING I

Semester Hours: 3

Carving stone, wood, and other materials is investigated with emphasis placed on developing the ability to see and release forms and on the unique relationship evolving between maker and material. Instruction also includes CNC routing, wood turning, and sharpening techniques. Prerequisite: ARS 240.

ARS 342 - SCULP: CASTING I

Semester Hours: 3

Course instruction focuses on mold making processes and materials involved in casting objects using both traditional and non-traditional methods. Metal casting is the principle focus of this course with investigation surrounding how digital practices continue to affect this age-old practice. Prerequisite: ARS 240.

ARS 346 - SCULP: FIGURE MODELING I

Semester Hours: 3

Study of the human form through direct clay modeling from life, including anatomical studies, armature construction, mold making, and casting. Nude models will be used. Prerequisite: ARS 240.

ARS 347 - SPACE AND PLACE

Semester Hours: 3

Investigation of installation and environmental art practices including site-specific work, public art and interactive environments. Students will explore works that relate to the experience of place and develop the potential to use 2D, 3D, and time-based works to transform space. Prerequisite: Any 200 level ARS course.

ARS 348 - DIGITAL FABRICATION

Semester Hours: 3

Digital Fabrication focuses on the action of using digital processes to design and create physical artwork. Several digital software programs are explored along with processes for digital fabrication machines (CNC milling, CNC plasma cutting, laser-cutting, 3D printing, and digital die-cutting machines.) Prerequisites: ARS 240 or ARS 220.

ARS 350 - PHOTO: DIGITAL I

Semester Hours: 3

Digital image creation and editing techniques using postproduction software, digital printing, and image presentation. Course addresses contemporary fine art issues and an introduction to studio lighting. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 250.

ARS 352 - PHOTO: DARKROOM I

Semester Hours: 3

Black and white film and darkroom techniques explored as a means of expression. Course discusses artistic styles and the history of twentieth-century black and white photography. Students will produce a final fine art portfolio. 35mm camera required (available through department if necessary). Prerequisite: ARS 250.

ARS 353 - PHOTO: EXPER & HIST I

Semester Hours: 3

Introduction to alternative ways of working in the darkroom with an emphasis on historical photographic techniques. Experimentation with analog and digital materials are encouraged to produce a final portfolio. Students need a film camera (available through the department if necessary). Prerequisite: ARS 352.

ARS 355 - PHOTO: DOCUMENTARY I

Semester Hours: 3

Students study "truth" in the image using the documentary style of photography. Emphasis on the history of the genre and how to work in the field with attention to ethical issues. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 350.

ARS 360 - DRAWING: FIGURE

Semester Hours: 3

Drawing with an emphasis on life drawing utilizing both traditional and contemporary methods and materials. Figure drawing is the traditional cornerstone of art training, and includes anatomy, observation, and advanced technical skills. Nude models will be used. Prerequisite: ARS 260.

ARS 375 - PAINTING: TRADITIONAL I

Semester Hours: 3

Investigation of figure painting, focusing on technical and philosophical approaches to using the human form as subject matter. Nude models will be used. Students are guided in the development of artistic facility and vocabulary. Prerequisite: ARS 270.

ARS 376 - PAINTING: CONTEMPORARY I

Semester Hours: 3

Contemporary approaches toward painting are explored through technical and conceptual exercises based on contemporary painting practices. Students are guided in the development of artistic facility and personal expression. Prerequisite: ARS 270.

ARS 377 - PAINTING: MIXED MEDIA I

Semester Hours: 3

Exploration of painting with mixed and non-traditional media, including the use of assemblage and collage processes, shaped or contoured canvases, and related media. Students are guided in the development of artistic facility and a vocabulary of visual symbols for personal expression. Prerequisite: ARS 270.

ARS 381 - PRINT: ETCHING & RELIEF I

Semester Hours: 3

Etching and relief print processes are explored through woodblock, linoleum cut, aquatint and line etching. Through demonstrations, critical analysis, and making prints, students develop skills with tools, techniques and concepts associated with etching and relief printmaking. Prerequisite: ARS 280.

ARS 383 - PRINT: SCREENPRINT I

Semester Hours: 3

Studio practices in screenprint methods are used to synthesize technical skills and develop sophisticated aesthetic modes of printmaking. Through demonstrations, critical analysis, and making prints, students will consider complex ways in which printmaking becomes a tool for artistic expression. Prerequisite: ARS 280.

ARS 385 - PRINT: BOOK ARTS I

Semester Hours: 3

Students develop skills and aesthetic modes of narrative work through book arts. Emphasis on gaining skills in cutting, folding, measuring, gluing, sewing, printing, and binding. Students develop form and content through the exploration of structural mock ups and personal work. Prerequisite: ARS 280.

ARS 387 - PRINT: MONOPRINT & LITHOGRAPHY I

Semester Hours: 3

Monoprint and lithography are explored through planographic print processes. Through demonstrations, critical analysis, and making prints, students develop skills with tools techniques and concepts associated with monoprint and lithography printmaking. Prerequisite: ARS 280.

ARS 390 - PORTFOLIO DEVELOPMENT I

Semester Hours: 3

This course is focused on helping students create high-quality portfolio work that demonstrates their skills and creative capabilities as artists. Multidisciplinary and discipline-specific sections are offered. Please see your advisor for details.

ARS 393 - MULTIMEDIA I

Semester Hours: 3

Study and practice of time-based and other artistic approaches that combine elements of various art forms, usually developed along strong conceptual or thematic lines. Readings, written assignments, and presentations foster an understanding of the wide varieties of contemporary art practice. Prerequisites: ARS 123, ARS 140, ARS 160 and ARS 260.

ARS 395 - SP TOPICS IN STUDIO ART

Semester Hours: 3

Special topics on particular media or conceptual approaches to art. This course allows the student to explore new media and/or critical theoretical approaches to contemporary art. Prerequisite: Instructor Approval.

ARS 415 - ANIMATION: TEAM GAME DESN I

Semester Hours: 3

Students in this collaborative game design and development course work in teams to conceptualize and create working video games in one semester. Students will gain an understanding of industry standard tools and practices, as well as get valuable experience working in teams. Prerequisite: Choose one: ARS 321, ARS 322, ARS 324, ARS 325, ARS 329, ARS 311, CS 221.

ARS 416 - ANIMATION: TEAM GAME DESN II

Semester Hours: 3

In this advanced collaborative game design and development course, students take on leadership production roles on their game teams and help mentor junior members. Students will gain experience as team leads and learn to coordinate multidisciplinary projects. Prerequisite: ARS 415.

ARS 425 - ANIMATION: SHORT FILM I

Semester Hours: 3

In this course, students will conceptualize and fully produce 3D animated short films. The story, characters, and world will be built from the ground up, and the production pipeline will mirror common industry practices. Experience with 3D is essential, but expertise in a particular discipline is not as critical as being driven to learn and create. Prerequisites: ARS 321 or 322 or 324 or 325 or 329.

ARS 426 - ANIMATION: SHORT FILM II

Semester Hours: 3

In this advanced short film production course students will take on leadership roles within their discipline and help guide the conceptualization and production of 3D animated short films. Advanced understanding of an aspect of production and short film pipelines is expected. Prerequisite: ARS 425.

ARS 430 - GRAPHIC DESIGN: PRINT MEDIA II

Semester Hours: 3

Course emphasizes print production, special applications of print design, environmental graphics, and advertising campaigns. Focus is on mastering print media methods and creating portfolio enhancement projects. Prerequisite: ARS 330.

ARS 432 - GRAPH DES: SENIOR PROJ MGMT

Semester Hours: 3

Students develop and/or manage one or more major web projects for clients as well as a professional site for students themselves. The course covers practical application of current best web design practices including user-centric design, HTML, CSS, Content Management Systems, and current web standards. Prerequisite: ARS 332.

ARS 433 - GRAPH DES: WATERCOLOR & DIG II

Semester Hours: 3

Course extends a student's knowledge of digital and traditional watercolor media. The purpose of this course is to further explore creative techniques, develop a direction, and apply new techniques combining media. Prerequisite: ARS 333.

ARS 434 - GRAPH DES: WEB USER EXPER II

Semester Hours: 3

Course focuses on advanced methods of user experience and user interface design. With faculty mentoring, students learn how to develop complex designs using these methods in user experience for the purpose of advanced media usage. Prerequisite: ARS 334.

ARS 435 - GRAPHIC DESIGN: TYPOGRAPHY II

Semester Hours: 3

Course explores professional methods in type design and type application. Course teaches students how to develop advertising series and text design using illustrative approaches to hand lettering. Curriculum includes expressive methods in developing type for the purpose of environmental graphics. Prerequisite: ARS 335.

ARS 440 - SCULP: FABRICATION II

Semester Hours: 3

Course continues investigation of fabrication processes exploring the specific nature of each area of specialization with emphasis on integrating multiple processes into singular sculptural works. Emphasis is placed on ideation, discussion, and presentation of personal artistic interests. Prerequisite: ARS 340.

ARS 441 - SCULP: CARVING II

Semester Hours: 3

Continued exploration of subtractive processes with a focus on specific material, process, or context. Discussion of ideation, historical/contemporary contexts, and presentation specific to personal artistic interests. Prerequisite: ARS 341.

ARS 442 - SCULP: CASTING II

Semester Hours: 3

Continued exploration of mold-making, patination, casting, and foundry processes as well as investigation of contemporary methods and materials. Students develop further technical knowledge and conceptual motivation related to casting with an emphasis on individual exploration. Prerequisite: ARS 342.

ARS 447 - SCULP: SPACE AND PLACE II

Semester Hours: 3

Exploration of installation and environmental art practices with an emphasis on creating work at off-campus sites. Students will engage in rigorous ideation through site research and public presentation. Students will have the opportunity to create public artworks on campus and in the City of Huntsville. Prerequisite: ARS 347.

ARS 448 - DIGITAL FABRICATION II

Semester Hours: 3

This advanced Digital Fabrication course focuses on advanced use digital processes to design and create physical artwork. Several digital software programs are further explored along with processes of digital fabrication machines (CNC milling, CNC plasma-cutting, laser-cutting, 3D printing, and digital die-cutting machines.) Prerequisite: ARS 348.

ARS 450 - PHOTO: DIGITAL II

Semester Hours: 3

Advanced digital image creation and image presentation. Class is open to experimentation with analog materials to produce digital media. There is an emphasis on personal style to produce a cohesive final project. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 350.

ARS 452 - PHOTO: DARKROOM II

Semester Hours: 3

Advanced class in black and white darkroom photography. Students will explore the techniques of medium and large format photography to produce a final fine art print portfolio. Access to a 120 and/or 4x5 view camera is required (available through department if necessary). Prerequisite: ARS 352.

ARS 453 - PHOTO: EXPER & HIST II

Semester Hours: 3

Advanced alternative and historical techniques in photography with an emphasis on personal style. Individual projects will be assigned to produce a cohesive portfolio. Prerequisite: ARS 353.

ARS 455 - PHOTO: DOCUMENTARY II

Semester Hours: 3

Advanced study of the documentary genre of photography throughout the history of the medium from the first portraits and travel photographs to the photojournalism and ethical issues of the modern world. Students are required to present a final portfolio of photographs. Prerequisite: ARS 355.

ARS 460 - DRAWING: CONCEPTUAL

Semester Hours: 3

Practice and theory focusing on drawing as a major medium, utilizing both traditional and contemporary methods and materials. Assignments are concept based. Nude models may be used. Prerequisite: ARS 360.

ARS 475 - PAINTING: TRADITIONAL II

Semester Hours: 3

Continued exploration of figurative painting processes with an emphasis on portfolio development and professional practices. Students are guided in the development of artistic facility and personal expression using paint as a medium. Prerequisite: ARS 375.

ARS 476 - PAINTING: CONTEMPORARY II

Semester Hours: 3

Continued exploration of contemporary painting approaches with an emphasis on portfolio development and professional practices. Students are guided in their development of artistic facility and a vocabulary of visual symbols for personal expression. Prerequisite: ARS 376.

ARS 477 - PAINTING: MIXED MEDIA II

Semester Hours: 3

Continued exploration of mixed and non-traditional media with an emphasis on portfolio development and professional practices. Students are guided in the development of artistic facility and a vocabulary of visual symbols for personal expression through the use of a variety of media. Prerequisite: ARS 377.

ARS 481 - PRINT: ETCHING & RELIEF II

Semester Hours: 3

This is an advanced course, where etching and relief are used to make an independent body of work. Students demonstrate how printmaking is a tool for conceptual exploration and expression. Through visual and written research students consider the hand-printed image within our culture. Prerequisite: ARS 381.

ARS 483 - PRINT: SCREENPRINT II

Semester Hours: 3

Studio practices in advanced screenprint methods are used to create an independent body of work. Students investigate how screenprinting is a tool for developing prints in an expanded way and explore the medium through the concerns of analog and digital possibilities. Prerequisite: ARS 383.

ARS 485 - PRINT: BOOK ARTS II

Semester Hours: 3

Students develop an advanced body of work in the book arts, by exploring structure and content. Content is developed through the student's independent investigation of text and image. Structure developed through the making of mockups. Honing technical skills in printing and binding is emphasized. Prerequisite: ARS 385.

ARS 487 - PRINT: MONOPRINT & LITHOGRAPHY II

Semester Hours: 3

Monoprint and lithography print processes are used to create an independent body of work in this advanced course. Students demonstrate how unique and multiple prints are tools for conceptual exploration and expression. Through research students consider the roll printed image within visual culture. Prerequisite: ARS 387.

ARS 490 - PORTFOLIO DEVELOPMENT II

Semester Hours: 3

This advanced portfolio development course allows students to work with and gain feedback from studio professors and students from different studio disciplines. Students will create a fully developed body of work that is aesthetically and/or conceptually linked. Prerequisite: ARS 390.

ARS 492 - ART INTERNSHIP

Semester Hours: 3

Student applies principles, theories, and skills learned in Art Studio and/or Art History courses to on-the-job experience in a professional environment. Internship host may be suggested by the student or assigned by advisor. One hundred fifty work hours required to complete 15-week internship. Prerequisite: Instructor Approval.

ARS 493 - MULTIMEDIA II

Semester Hours: 3

Continued exploration of multi-media art works with emphasis on increasing sophistication and portfolio development. Readings, written assignments, and presentations foster an understanding of the wide varieties of contemporary art practice. Prerequisite: ARS 393.

ARS 494 - PROFESSIONAL PRACTICES

Semester Hours: 3

Course is a requirement for students in the BFA program, and is open to BA students. Includes preparation for the senior exit show or design portfolio, developing written materials for careers in the visual arts, and learning how to install and manage an art exhibition. Prerequisites: ARS 123, ARS 140, ARS 160 ARS 260, plus a minimum of four 300/400-level studio courses.

ARS 495 - INDEPENDENT PROJECTS

Semester Hours: 3

Available for an advanced major when an appropriate course is not offered to facilitate progress to graduation. May be taken only one time. Prerequisite: Instructor Approval.

ARS 496 - PRINCIPLES FOR TEACHING ART

Semester Hours: 3

Focuses on methods, materials and processes suitable for comprehensive art education content implementation. The course is a hands-on methods course in which students are required to design and implement art lessons to be taught to students in educational settings. Prerequisites: ED 410 and at least four 300-level ARS courses, minimum GPA 2.75 or higher.

Art, BA - Art Education Concentration

The Art Education Discipline

- Art, BA Art Education requires at least 132 credit hours.
- Admission to teacher education program requires cumulative 2.75 or higher GPA, clear background/fingerprint check, passing AECP (Alabama Basic Skills assessment).
- 42 of 132 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall credits must be earned at UAH.
- Art Majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 66 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the AHSS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC	

or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		18
These classes will share between the pre-professional area and Major: ARS 123, ARS 140, ARS 160, ARH 100, ARH 101, and ARH 103.		
Any WLC 101, 102, 201, or 202		
The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.		
Art Education Major Requirements:		54
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	

ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 123	2D DESIGN & COLOR THEORY
ARS 140	3D DESIGN
ARS 160	DRAWING: FOUNDATIONS
ARH 300+ Course	
Choose four:	
ARS 210	GAME DESIGN: INTRODUCTION
ARS 220	ANIMATION: INTRODUCTION
ARS 230	GRAPHIC DESIGN: INTRODUCTION
ARS 240	SCULPTURE: INTRODUCTION
ARS 250	PHOTOGRAPHY: INTRODUCTION
ARS 260	DRAWING: INTRODUCTION
ARS 270	PAINTING: INTRODUCTION
ARS 280	PRINTMAKING: INTRODUCTION
Choose four upper-level courses in different disciplines:	
ARS 31X	
ARS 32X	
ARS 33X	
ARS 34X	
ARS 35X	
ARS 36X	
ARS 37X	
ARS 38X	
Electives	
Choose two additional ARS 300- or 400-level courses	
Capstone Experience:	
ARS 496	PRINCIPLES FOR TEACHING ART
Education Courses	
ED 301	INTRO TO EDUCATION PRACTICUM
ED 307	MULTICULTURAL FND EDUCATION
ED 308	EDUCATIONAL PSYCHOLOGY
ED 309	CLASSROOM & BEHAVIOR MGMT
ED 315	EDUC EVALUATION & MEASUREMENT
or ED 410	FOUNDATIONS EDUC EVALUAT
ED 350	TECHNOLOGY IN CLASSROOM
EDC 301	TCHG THE EXCEPTIONAL CHILD
EDC 311	INSTR STRATEGIES INCLUSIVE CLR
ED 408	TCHG READING/CONTENT AREA
Internship	
ED 499	P-12 INTERNSHIP
Total Semester Hours	

132

Art, BA - Art History Concentration

The Art History Discipline

- Art, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.

- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the AHSS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	

WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
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or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
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AMS 229	ANCIENT & MEDIEVAL WORLDS
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ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
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BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II

11-12

3-4

8

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
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HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
9 hours will be courses shared with the ARH major and may not also be used in Area II of the GER. The hours only count once towards overall credit hours.		
Any WLC 101, 102, 201 or 202		
7 hours pre-professional electives which can be chosen from the above categories of Humanities, History, Literature, Social and Behavioral Sciences, Science, Mathematics, and Fine Arts. These are additional courses that were not taken to fulfill the categories above.		
Art History Major Requirements		42
Lower Division Requirements		18
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
Any two 100-level ARS courses		
One 200-level ARS course		
Art History Upper Division Requirements		24
Art History Courses:		
ARH 309	CONTEMPORARY ART & ISSUES	
Select five additional ARH courses at the 300+ level or above from the following:		
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 304	TWENTIETH CENTURY ART	

ARH 305	ANCIENT ROMAN ART
ARH 306	COLLAPSE OF CIVILIZATIONS
ARH 307	IMPRESSIONISM & POST-IMP
ARH 310	NINETEENTH CENTURY ART
ARH 311	PHILOSOPHY OF ART
ARH 320	SPECIAL TOPICS IN ART HY
ARH 395	INDEPENDENT STUDY
HY 310	INTRODUCTION TO PUBLIC HISTORY

Senior Thesis:

ARH 400	SENIOR THESIS
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Art Studio Courses:

One 300-level ARS course, corresponding to 200-level taken above ^{1,2}

Minor **18+**

Elective Courses

Elective hours vary by student, please see advisor.

Total Semester Hours **120**

¹ An additional 3 hr. upper-level studio, art history, or approved related discipline is required for art history majors with a studio minor. Please consult with advisor or chair.

² For example, if a student opts to take ARS 280, he or she may select among the 300-level Printmaking options: ARS 381, ARS 383, ARS 385, or ARS 387.

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
MA 1XX		3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARS 160	DRAWING: FOUNDATIONS	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13

Spring

EH 102	COLLEGE WRITING II	3
Science w/Lab		4
ARH 103	ARH SUR: WORLD ART	3
ARS 123	2D DESIGN COLOR THEORY	3
or ARS 140	or 3D DESIGN	
Area II GER Class		3
Term Semester Hours:		16

Year 2

Fall		
Foreign Language Class		3
Science w/Lab		4
HY 103	WORLD HISTORY TO 1500	3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 309	CONTEMPORARY ART ISSUES	3
Term Semester Hours:		16

Spring

EH 2XX		3
ARS 2XX		3
HY 104	WORLD HISTORY SINCE 1500	3
ARH 3XX		3
Minor Class		3
Term Semester Hours:		15

Year 3**Fall**

Area II GER class	3
ARH 3XX	3
ARS 3XX	3
Minor Class	3
Minor Class	3
Term Semester Hours:	15

Spring

Area IV GER	3
ARH 3XX	3
ARH 3XX	3
Minor Class	3
Minor Class	3
Term Semester Hours:	15

Year 4**Fall**

Area II GER	3
ARS 3XX	3
Area V GER	3
Minor Class	3
Minor Class	3
Term Semester Hours:	15

Spring

Area IV GER		3
ARH 400	SENIOR THESIS	3
Area V GER		3
Area V GER		3
Elective		3
Term Semester Hours:		15

Total Semester Hours:	120
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Art, BA - Art Studio Concentration

The Art Studio Discipline

- Art, BA Art Studio requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts* **12****Fine Arts** **3**

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature **3-6**

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts **3-6**

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU

AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	

AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
WLC 101, 102, 201, or 202		3

ARS 123, ARS 160, ARS 140, ARS 260, ARH 1xx, and ARH 1xx will share with the Art Studio major and the Pre-professional area. These classes may not also count in Area II of the GER. However, the hours only count once towards overall credit hours.

Art Studio Major Requirements:	51
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ARS 123	2D DESIGN & COLOR THEORY
ARS 140	3D DESIGN
ARS 160	DRAWING: FOUNDATIONS
ARS 260	DRAWING: INTRODUCTION

Select three additional 200-level ARS courses

Art History Requirements. Select two of the following:

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART

Upper Division Requirements ^{1,2}

ARH 309	CONTEMPORARY ART & ISSUES
Select five ARS courses at the 300+ level	
Select two ARS courses at the 400+ level	

From the 300+ and 400+ classes, no more than four courses may be taken from any one area listed below

Digital Animation:

ARS 311	GAME DESIGN: SCRIPTING & DES I
ARS 321	ANIMATION: ORGANIC MODELING
ARS 325	ANIMATION: HARD SURF MODELING
ARS 328	ANIMATION: CONCEPT ART
ARS 327	ANIMATION; VISUAL STORY DEV
ARS 329	ANIMATION: 2D ANIMATION
ARS 322	ANIMATION: 3D ANIMATION
ARS 324	ANIMATION: TECHNICAL ARTS
ARS 415	ANIMATION: TEAM GAME DESN I
ARS 416	ANIMATION: TEAM GAME DESN II
ARS 425	ANIMATION: SHORT FILM I
ARS 426	ANIMATION: SHORT FILM II

Graphic Design:

ARS 330	GRAPHIC DESIGN: PRINT MEDIA I
ARS 332	GRAPHIC DESIGN: WEB DESIGN
ARS 333	GRAPH DES: WATERCOLOR & DIG I

ARS 334	GRAPH DES: WEB USER EXPER I
ARS 335	GRAPHIC DESIGN: TYPOGRAPHY I
ARS 430	GRAPHIC DESIGN: PRINT MEDIA II
ARS 432	GRAPH DES: SENIOR PROJ MGMT
ARS 433	GRAPH DES: WATERCOLOR & DIG II
ARS 434	GRAPH DES: WEB USER EXPER II
ARS 435	GRAPHIC DESIGN: TYPOGRAPHY II
Painting/Drawing:	
ARS 360	DRAWING: FIGURE
ARS 375	PAINTING: TRADITIONAL I
ARS 376	PAINTING: CONTEMPORARY I
ARS 377	PAINTING: MIXED MEDIA I
ARS 460	DRAWING: CONCEPTUAL
ARS 475	PAINTING: TRADITIONAL II
ARS 476	PAINTING: CONTEMPORARY II
ARS 477	PAINTING: MIXED MEDIA II
Printmaking:	
ARS 381	PRINT: ETCHING & RELIEF I
ARS 383	PRINT: SCREENPRINT I
ARS 385	PRINT: BOOK ARTS I
ARS 387	PRINT: MONOPRINT & LITHOGRAPHY I
ARS 481	PRINT: ETCHING & RELIEF II
ARS 483	PRINT: SCREENPRINT II
ARS 485	PRINT: BOOK ARTS II
ARS 487	PRINT: MONOPRINT & LITHOGRAPHY II
Photography:	
ARS 350	PHOTO: DIGITAL I
ARS 352	PHOTO: DARKROOM I
ARS 353	PHOTO: EXPER & HIST I
ARS 355	PHOTO: DOCUMENTARY I
ARS 450	PHOTO: DIGITAL II
ARS 452	PHOTO: DARKROOM II
ARS 453	PHOTO: EXPER & HIST II
ARS 455	PHOTO: DOCUMENTARY II
Sculpture:	
ARS 340	SCULP: FABRICATION I
ARS 341	SCULP: CARVING I
ARS 342	SCULP: CASTING I
ARS 347	SPACE AND PLACE
ARS 440	SCULP: FABRICATION II
ARS 441	SCULP: CARVING II
ARS 442	SCULP: CASTING II
ARS 447	SCULP: SPACE AND PLACE II
Other:	
ARS 346	SCULP: FIGURE MODELING I
ARS 390	PORTFOLIO DEVELOPMENT I
ARS 393	MULTIMEDIA I
ARS 395	SP TOPICS IN STUDIO ART
ARS 490	PORTFOLIO DEVELOPMENT II
ARS 492	ART INTERNSHIP
ARS 493	MULTIMEDIA II
ARS 494	PROFESSIONAL PRACTICES

ARS 495	INDEPENDENT PROJECTS
Courses at Alabama A&M ³	
Minor Courses	18+
Elective Courses	
Elective hours vary by student, see advisor.	
Total Semester Hours	120

- ¹ These are tracks are based on a student's interest, but they are not recognized concentrations or majors. Students will receive a Bachelor of Arts; Major: Art; Concentration: Art Studio.
- ² Majors with an Art Studio focus have the option to complete a group exhibition (fine arts areas) or portfolio review (digital animation and graphic design) requirement. Students emphasizing in digital animation and graphic design may present a comprehensive portfolio as part of the coursework for their final 400-level course. All other art majors with an Art Studio focus may mount a senior group exhibition of their work. Contact the Department for details.
- ³ To fulfill upper-division elective studio requirements, a student may take two art studio courses at Alabama A&M. These courses must be selected from ARH 305, ARH 306, and ARH 307.

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
MATH 1XX		3
ARS 123	2D DESIGN COLOR THEORY	3
ARS 160	DRAWING: FOUNDATIONS	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
ARS 140	3D DESIGN	3
ARS 260	DRAWING: INTRODUCTION	3
Science w/Lab		4
ARH 1XX		3
Term Semester Hours:		16

Year 2

Fall		
FL 1XX		3
Science w/Lab		4
HY 103	WORLD HISTORY TO 1500	3
ARS 2XX		3
ARS 2XX		3
Term Semester Hours:		16
Spring		
EH 2XX		3
HY 104	WORLD HISTORY SINCE 1500	3
ARH 1XX		3
ARS 2XX		3
ARS 3XX		3
Term Semester Hours:		15

Year 3

Fall		
Area II GER Fine Arts class		3
ARH 309	CONTEMPORARY ART ISSUES	3
ARS 3XX		3
Minor Courses		6
Term Semester Hours:		15

Spring

GER Area II	3
GER Area IV	3
ARS 3XX	3
Minor Courses	6
Term Semester Hours:	15

Year 4**Fall**

GER Area II	3
GER Area IV	3
Minor Courses	6
ARS 3XX	3
Term Semester Hours:	15

Spring

ARS 3XX	3
ARS 4XX	3
ARS 4XX	3
Minor Course	3
Elective	3
Term Semester Hours:	15
Total Semester Hours:	120

Art, BFA - Digital Animation Concentration

- Art, BFA Digital Animation requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the AHSS Advising Office.
- All students must pass a portfolio review
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	

Literature

3-6

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts

3-6

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

11-12

Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	

SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
Take any WLC 101, 102, 201, or 202		
The following classes will share between major and Pre-Professional Area: ARS 160, ARS 260, ARS 123, ARS 140, ARH 1xx, ARH 1xx, and CM 231		
The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.		
BFA Animation Major Requirements:		78
Foundations:		24
ARS 123	2D DESIGN & COLOR THEORY	
ARS 140	3D DESIGN	
ARS 160	DRAWING: FOUNDATIONS	
ARS 260	DRAWING: INTRODUCTION	
ARS 220	ANIMATION: INTRODUCTION	
Choose three of the following:		
ARS 210	GAME DESIGN: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 240	SCULPTURE: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 270	PAINTING: INTRODUCTION	
ARS 280	PRINTMAKING: INTRODUCTION	
Art History		9
Choose two of the following:		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
Art History Requirement:		
ARH 309	CONTEMPORARY ART & ISSUES	
Interdisciplinary Experience		9
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	
CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
MU 305	MUSIC TECHNOLOGY III	
or MU 306	MUSIC TECHNOLOGY IV	
Concentration Courses		30
Choose four of the following:		
Any ARS 32x or 31x		
Choose two of the following:		
Any ARS 42x or 41x		
Choose two of the following:		
ARS 31x, 32x, 41x, 42x		
AND		
ARS 390	PORTFOLIO DEVELOPMENT I	
ARS 494	PROFESSIONAL PRACTICES	
Major Electives		6
Choose two of the following:		
Any upper-level ARH or ARS courses		

AND/OR

CM 330	NONVERBAL COMMUNICATION
CS 121	COMPUTER SCIENCE I
CS 221	COMP SCI II: DATA STRUCTURES
CS 330	ARTFCL INTEL & GAME DEV
CS 347	INTRO VIDEO GAME DESGN & PROGM
CS 445	INTRO COMPUTER GRAPHICS
CS 446	ADVANCED COMPUTER GRAPHICS
EH 211	INTRO CREATIVE WRITING
EH 301	TECHNICAL WRITING
EH 410	FICTION WRITING
EH 429	STUDIES IN AMERICAN CINEMA
EH 442	USABILITY STUDIES
EH 454	NEW MEDIA WRITING & RHETORIC
FMA 210	WRITING FOR VISUAL MEDIA
FMA 260	VIDEO PRODUCTION
FMA 334	HISTORY OF AMERICAN CINEMA
FMA 360	VIDEO PRESENTATION
TH 221	ACTING
TH 225	ELEMENTS OF THEATRE PRODUCTION
TH 355	SCENE DESIGN
TH 375	SOUND DESIGN
TH 425	THEATRE MAINSTAGE
TH 465	DIRECTING

Other courses with approval

Electives

Electives vary by major, please see advisor.

Total Semester Hours **120****Year 1**

Fall		Semester Hours
ARS 160	DRAWING: FOUNDATIONS	3
EH 101	COLLEGE WRITING I	3
ARS 123	2D DESIGN COLOR THEORY	3
Approved Math course		3
FYE		1

Term Semester Hours: 13**Spring**

ARS 140	3D DESIGN	3
ARS 220	ANIMATION: INTRODUCTION	3
ARH 1XX Art History Survey		3
EH 102	COLLEGE WRITING II	3
Social and Behavioral Science		3

Term Semester Hours: 15**Year 2**

Fall		
ARS 260	DRAWING: INTRODUCTION	3
ARH 1XX Art History Survey		3
ARS 2XX		3
ARS 3XX (Animation)		3
WLC 101X		3

Term Semester Hours: 15

Spring

ARS 3XX (Animation)		3
ARS 3XX (Animation)		3
HY 103,104,221,222, AMS 229		3
Science		4
EH 207, 208, 209, 210 or 242		3

Term Semester Hours:	16
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Year 3**Fall**

ARS 2XX		3
ARS 3XX or 4XX (Animation)		3
ARH 309	CONTEMPORARY ART ISSUES	3
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
Science		4
BFA Portfolio Review		

Term Semester Hours:	16
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Spring

ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 2XX		3
ARS 3XX or 4XX (Animation)		3
CS 102 or 103		3
FMA 123,MU 100 or TH 122		3

Term Semester Hours:	15
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Year 4**Fall**

Approved Elective Course		3
ARS 3XX (Animation)		3
ARS 4XX (Animation)		3
MU 305	MUSIC TECHNOLOGY III	3
Social or Behavioral Science		3

Term Semester Hours:	15
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Spring

4XX Animation		3
Foreign Language Requirement		3
Approved Elective Course		3
Area 4 class		3
ARS 494	PROFESSIONAL PRACTICES	3

Term Semester Hours:	15
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Total Semester Hours:	120
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Art, BFA - Graphic Design Concentration

Graphic Design Concentration

- Art, BFA Graphic Design requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All sharing of classes must be approved through the AHSS Advising Office.

- All students must pass a portfolio review
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC	

or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	3-4
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	8
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-professional Courses		19
Take any WLC 101, 102, 201, or 202		
These classes will share between the Pre-Professional Area and Major: ARS 160, ARS 123, ARS 140, ARS 260, ARH 100, ARH 101, and ARH 103		
The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.		
Graphic Design BFA Major Requirements:		78
Foundations:		12
ARS 123	2D DESIGN & COLOR THEORY	
ARS 140	3D DESIGN	
ARS 160	DRAWING: FOUNDATIONS	
ARS 260	DRAWING: INTRODUCTION	
Select four:		12
ARS 210	GAME DESIGN: INTRODUCTION	
ARS 220	ANIMATION: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 240	SCULPTURE: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 270	PAINTING: INTRODUCTION	
ARS 280	PRINTMAKING: INTRODUCTION	
Upper Division Requirements		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 494	PROFESSIONAL PRACTICES	3
Select 4 ARS courses at the 300-level in the field of concentration		12
Select 2 ARS courses at the 400-level in the field of concentration		6

ARS 330	GRAPHIC DESIGN: PRINT MEDIA I	
ARS 332	GRAPHIC DESIGN: WEB DESIGN	
ARS 333	GRAPH DES: WATERCOLOR & DIG I	
ARS 334	GRAPH DES: WEB USER EXPER I	
ARS 335	GRAPHIC DESIGN: TYPOGRAPHY I	
ARS 395	SP TOPICS IN STUDIO ART ²	
ARS 430	GRAPHIC DESIGN: PRINT MEDIA II	
ARS 432	GRAPH DES: SENIOR PROJ MGMT	
ARS 433	GRAPH DES: WATERCOLOR & DIG II	
ARS 434	GRAPH DES: WEB USER EXPER II	
ARS 435	GRAPHIC DESIGN: TYPOGRAPHY II	
ARS 495	INDEPENDENT PROJECTS ²	
Art History Requirements:		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARH 309	CONTEMPORARY ART & ISSUES	3
Select one of the following 300-level Art History courses before 1800:		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Select one of the following 300-level Art History courses after 1800:		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Major Electives		12
Select 4 courses ARH/ARS 300-level or above		
Electives		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

¹ Depending on the topic of this course, it may satisfy either the Pre- or Post-1800 requirement, or function as an elective.

² Depending on the topic of this course, it may satisfy a major specific requirement. If the subject matter was not specific to graphic design, the class will count as a major elective.

Year 1

Fall	Semester Hours
EH 101	3
Approved Math course	3
ARS 123	3
ARS 160	3
FYE 101	1
Term Semester Hours:	13
Spring	
EH 102	3
ARS 230	3
ARS 140	3

Social and Behavioral Science	3
ARH 100	3
Term Semester Hours:	15
Year 2	
Fall	
WLC 101 X	3
ARS 260	3
ARS 3xx in Graphic Design	3
ARH 101	3
ARS 2xx introductory course	3
Term Semester Hours:	15
Spring	
Science	4
ARH 103	3
ARS 3xx in Graphic Design	3
ARS 3xx in Graphic Design	3
HY 103 or 104	3
Term Semester Hours:	16
Year 3	
Fall	
ARS 390	3
ARH 309	3
EH 207 or 208	3
ARS 2xx introductory course	3
Science	4
BFA Portfolio Review	
Term Semester Hours:	16
Spring	
ARH 3xx Ancient	3
MU 100 or TH 122	3
ARS 2xx introductory course	3
Area II class in GER	3
ARS/ARH 300+ elective	3
Term Semester Hours:	15
Year 4	
Fall	
ARS 494	3
ARH 3xx Modern	3
ARS 4xx in Graphic Design	3
Area IV class in GER	3
ARS/ARH 300+ elective	3
Term Semester Hours:	15
Spring	
ARS 4xx in Graphic Design	3
Area IV class in GER	3
ARS/ARH 300+ elective	3
ARS 3xx in Graphic Design	3
ARS/ARH 300+ elective	3
Term Semester Hours:	15
Total Semester Hours:	120

Art, BFA - Painting/Drawing Concentration

Painting/Drawing Concentration

- Art, BFA Painting/Drawing requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the AHSS Advising Office.
- All students must pass a portfolio review
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH	

or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB

11-12

3-4

8

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-professional Courses		19

Take any WLC 101, 102, 201, or 202

These major classes will be shared between the Pre-Professional Area and major: ARS 160, ARS 123, ARS 140, ARS 260, ARH 100, ARH 101, and ARH 103.

The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.

Painting and Drawing BFA Major Requirements: **78**

Foundations: 12

ARS 123	2D DESIGN & COLOR THEORY
ARS 140	3D DESIGN
ARS 160	DRAWING: FOUNDATIONS
ARS 260	DRAWING: INTRODUCTION

Select four: 12

ARS 210	GAME DESIGN: INTRODUCTION
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ARS 220	ANIMATION: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 240	SCULPTURE: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 270	PAINTING: INTRODUCTION	
ARS 280	PRINTMAKING: INTRODUCTION	
Upper Division Requirements		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 494	PROFESSIONAL PRACTICES	3
Select 4 ARS courses at the 300-level in the field of concentration		12
Select 2 ARS courses at the 400-level in the field of concentration		6
ARS 360	DRAWING: FIGURE	
ARS 375	PAINTING: TRADITIONAL I	
ARS 376	PAINTING: CONTEMPORARY I	
ARS 377	PAINTING: MIXED MEDIA I	
ARS 395	SP TOPICS IN STUDIO ART ²	
ARS 460	DRAWING: CONCEPTUAL	
ARS 475	PAINTING: TRADITIONAL II	
ARS 476	PAINTING: CONTEMPORARY II	
ARS 477	PAINTING: MIXED MEDIA II	
ARS 495	INDEPENDENT PROJECTS ²	
Art History Requirements:		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARH 309	CONTEMPORARY ART & ISSUES	3
Select one of the following 300-level Art History courses before 1800:		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Select one of the following 300-level Art History courses after 1800:		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Major Electives		12
Select 4 courses ARH/ARS 300-level or above		
Electives		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

¹ Depending on the topic of this course, it may satisfy either the Pre- or Post-1800 requirement, or function as an elective.

² Depending on the topic of this course, it may satisfy a major specific requirement. If the subject matter was not specific in painting and drawing, the class will count as a major elective.

Year 1

Fall		Semester Hours
ARS 123	2D DESIGN COLOR THEORY	3
ARS 160	DRAWING: FOUNDATIONS	3
EH 101		3
Mathematics		3
FYE 101		1
Term Semester Hours:		13

Spring

ARS 140	3D DESIGN	3
ARS 270	PAINTING: INTRODUCTION	3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
EH 102	COLLEGE WRITING II	3
Social and Behavioral Science		3
Term Semester Hours:		15

Year 2

Fall		
WLC 101		3
ARS 260	DRAWING: INTRODUCTION	3
3xx course in Painting and Drawing		3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARS 2xx introductory course		3
Term Semester Hours:		15

Spring

ARH 103	ARH SUR: WORLD ART	3
Science		4
ARS 3xx in Painting and Drawing		3
ARS 3xx in Painting and Drawing		3
HY 103 or 104		3
Term Semester Hours:		16

Year 3

Fall		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARH 309	CONTEMPORARY ART ISSUES	3
EH 207 or 208		3
ARS 2xx introductory course		3
Science		4
BFA Portfolio Review		
Term Semester Hours:		16

Spring

ARH 3xx Ancient		3
ARS 2xx introductory course		3
Fine Arts class GER		3
Foreign Language Requirement		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15

Year 4

Fall		
ARS 4xx in Painting and Drawing		3
ARH 3xx Modern		3
ARS 3xx in Painting and Drawing		3

ARS/ARH 300+ elective		3
Social and Behavioral Science		3
Term Semester Hours:		15
Spring		
ARS 494	PROFESSIONAL PRACTICES	3
Area IV class		3
ARS 4xx in Painting and Drawing		3
ARS/ARH 300+ elective		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Total Semester Hours:		120

Art, BFA - Photography Concentration

Photography Concentration

- Art, BFA Photography requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the AHSS Advising Office.
- All students must pass a portfolio review
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	

EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	

Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-professional Courses		19
Take any WLC 101, 102, 201, or 202		

The following classes will be shared between the major and the Pre-Professional area: ARS 160, ARS 123, ARS 140, ARS 260, ARH 100, ARH 101, and ARH 103.

The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.

Photography BFA Major Requirements:		78
Foundations:		12
ARS 123	2D DESIGN & COLOR THEORY	
ARS 140	3D DESIGN	
ARS 160	DRAWING: FOUNDATIONS	
ARS 260	DRAWING: INTRODUCTION	
Select four:		12
ARS 210	GAME DESIGN: INTRODUCTION	
ARS 220	ANIMATION: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 240	SCULPTURE: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 270	PAINTING: INTRODUCTION	
ARS 280	PRINTMAKING: INTRODUCTION	
Upper Division Requirements		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 494	PROFESSIONAL PRACTICES	3
Select 4 ARS courses at the 300-level in the field of concentration		12
Select 2 ARS courses at the 400-level in the field of concentration		6
ARS 350	PHOTO: DIGITAL I	
ARS 352	PHOTO: DARKROOM I	
ARS 353	PHOTO: EXPER & HIST I	
ARS 355	PHOTO: DOCUMENTARY I	
ARS 395	SP TOPICS IN STUDIO ART ²	
ARS 450	PHOTO: DIGITAL II	
ARS 452	PHOTO: DARKROOM II	
ARS 453	PHOTO: EXPER & HIST II	
ARS 455	PHOTO: DOCUMENTARY II	
ARS 495	INDEPENDENT PROJECTS ²	
Art History Requirements:		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARH 309	CONTEMPORARY ART & ISSUES	3
Select one of the following 300-level Art History courses before 1800:		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Select one of the following 300-level Art History courses after 1800:		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
ARH 320	SPECIAL TOPICS IN ART HY ¹	

Major Electives 12

Select 4 courses ARH/ARS 300-level or above

Electives

Elective hours vary by program, please see advisor.

Total Semester Hours 120¹ Depending on the topic of this course, it may satisfy either the Pre- or Post-1800 requirement, or function as an elective.² Depending on the topic of this course, it may satisfy a major specific requirement. If the subject matter was not specific to photography, the class will count as a major elective.**Year 1**

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
Mathematics		3
ARS 123	2D DESIGN COLOR THEORY	3
ARS 160	DRAWING: FOUNDATIONS	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
ARS 140	3D DESIGN	3
ARS 250	PHOTOGRAPHY: INTRODUCTION	3
Social and Behavioral Science		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
Term Semester Hours:		15

Year 2

Fall		
WLC 101		3
ARS 260	DRAWING: INTRODUCTION	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARS 2xx introductory course		3
3xx in Photography		3
Term Semester Hours:		15
Spring		
Science		4
ARH 103	ARH SUR: WORLD ART	3
ARS 3xx in Photography		3
ARS 3xx in Photography		3
HY 103 or 104		3
Term Semester Hours:		16

Year 3

Fall		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARH 309	CONTEMPORARY ART ISSUES	3
EH 207 or 208		3
ARS 2xx introductory course		3
Science		4
Term Semester Hours:		16
Spring		
ARH 3xx ancient		3
Fine Arts class GER		3

ARS 2xx introductory course		3
Area II class		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Year 4		
Fall		
ARS 4xx in Photography		3
ARH 3xx Modern		3
Social and Behavioral Science		3
ARS/ARH 300+ elective		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Spring		
ARS 494	PROFESSIONAL PRACTICES	3
Area IV class		3
ARS 4xx in Photography		3
ARS/ARH 300+ elective		3
ARS 3xx in Photography		3
Term Semester Hours:		15
Total Semester Hours:		120

Art, BFA - Printmaking Concentration

Printmaking Concentration

- Art, BFA Printmaking requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the AHSS Advising Office.
- All students must pass a portfolio review
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	

Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	

Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	

SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
Take any WLC 101, 102, 201, or 202		
The following classes will share between the major and Pre-Professional area: ARS 160, ARS 123, ARS 140, ARS 260, ARH 100, ARH 101, and ARH 103.		
The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.		
Printmaking BFA Major Requirements:		78
Foundations:		12
ARS 123	2D DESIGN & COLOR THEORY	
ARS 140	3D DESIGN	
ARS 160	DRAWING: FOUNDATIONS	
ARS 260	DRAWING: INTRODUCTION	
Select four:		12
ARS 210	GAME DESIGN: INTRODUCTION	
ARS 220	ANIMATION: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 240	SCULPTURE: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 270	PAINTING: INTRODUCTION	
ARS 280	PRINTMAKING: INTRODUCTION	
Upper Division Requirements		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 494	PROFESSIONAL PRACTICES	3
Select 4 ARS courses at the 300-level in the field of concentration		12
Select 2 ARS courses at the 400-level in the field of concentration		6
ARS 381	PRINT: ETCHING & RELIEF I	
ARS 383	PRINT: SCREENPRINT I	
ARS 385	PRINT: BOOK ARTS I	
ARS 387	PRINT: MONOPRINT & LITHOGRAPHY I	
ARS 395	SP TOPICS IN STUDIO ART ²	
ARS 481	PRINT: ETCHING & RELIEF II	
ARS 483	PRINT: SCREENPRINT II	
ARS 485	PRINT: BOOK ARTS II	
ARS 487	PRINT: MONOPRINT & LITHOGRAPHY II	
ARS 495	INDEPENDENT PROJECTS ²	
Art History Requirements:		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARH 309	CONTEMPORARY ART & ISSUES	3
Select one of the following 300-level Art History courses before 1800:		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	

ARH 320	SPECIAL TOPICS IN ART HY ¹	
Select one of the following 300-level Art History courses after 1800:		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
ARH 320	SPECIAL TOPICS IN ART HY ¹	

Major Electives	12
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Select 4 courses ARH/ARS 300-level or above

Electives

Elective hours vary by program, please see advisor.

Total Semester Hours	120
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¹ Depending on the topic of this course, it may satisfy either the Pre- or Post-1800 requirement, or function as an elective.

² Depending on the topic of this course, it may satisfy a major specific requirement. If the subject matter was not specific to printmaking, the class will count as a major elective.

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
Mathematics		3
ARS 123	2D DESIGN COLOR THEORY	3
ARS 160	DRAWING: FOUNDATIONS	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
ARS 140	3D DESIGN	3
ARS 280	PRINTMAKING: INTRODUCTION	3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
Social and Behavioral Science		3
Term Semester Hours:		15

Year 2

Fall		
WLC 101		3
ARS 260	DRAWING: INTRODUCTION	3
3xx in Printmaking		3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARS 2xx introductory course		3
Term Semester Hours:		15
Spring		
Science		4
ARH 103	ARH SUR: WORLD ART	3
ARS 3xx in Printmaking		3
ARS 3xx in Printmaking		3
HY 103 or 104		3
Term Semester Hours:		16

Year 3

Fall		
ARS 390	PORTFOLIO DEVELOPMENT I	3

ARH 309	CONTEMPORARY ART ISSUES	3
EH 207 or 208		3
ARS 2xx introductory course		3
Science		4
Term Semester Hours:		16
Spring		
ARH 3xx ancient		3
Fine Arts class GER		3
ARS 2xx introductory course		3
Area II class		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Year 4		
Fall		
ARS 4xx in Printmaking		3
ARS/ARH 300+ elective		3
ARH 3xx Modern		3
ARS/ARH 300+ elective		3
Social and Behavioral Science		3
Term Semester Hours:		15
Spring		
ARS 494	PROFESSIONAL PRACTICES	3
Area IV class		3
ARS 4xx in Printmaking		3
ARS/ARH 300+ elective		3
ARS 3xx in Printmaking		3
Term Semester Hours:		15
Total Semester Hours:		120

Art, BFA - Sculpture Concentration

Sculpture Concentration

- Art, BFA Sculpture requires at least 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall must be earned at UAH.
- Art majors transferring to UAH must complete at least 12 semester hours of art courses at the 300-level or above at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All students must pass a portfolio review
- All double counting of classes must be approved through the AHSS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12

Fine Arts

3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature

3-6

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts

3-6

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	

ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-professional Courses		19

Take any WLC 101, 102, 201, or 202

The following classes will share between the major and Pre-Professional area: ARS 160, ARS 123, ARS 140, ARS 260, ARH 100, ARH 101, and ARH 103.

The classes counting in the Pre-Professional area will not also be allowed to count in Area II of the GER. The hours only count once towards overall credit hours.

Sculpture BFA Major Requirements: 78

Foundations: 12

ARS 123	2D DESIGN & COLOR THEORY
ARS 140	3D DESIGN
ARS 160	DRAWING: FOUNDATIONS
ARS 260	DRAWING: INTRODUCTION

Select four: 12

ARS 210	GAME DESIGN: INTRODUCTION
ARS 220	ANIMATION: INTRODUCTION
ARS 230	GRAPHIC DESIGN: INTRODUCTION
ARS 240	SCULPTURE: INTRODUCTION
ARS 250	PHOTOGRAPHY: INTRODUCTION
ARS 270	PAINTING: INTRODUCTION
ARS 280	PRINTMAKING: INTRODUCTION

Upper Division Requirements

ARS 390	PORTFOLIO DEVELOPMENT I	3
ARS 494	PROFESSIONAL PRACTICES	3

Select 4 ARS courses at the 300-level in the field of concentration 12

Select 2 ARS courses at the 400-level in the field of concentration 6

ARS 340	SCULP: FABRICATION I
ARS 341	SCULP: CARVING I
ARS 342	SCULP: CASTING I
ARS 346	SCULP: FIGURE MODELING I
ARS 347	SPACE AND PLACE
ARS 395	SP TOPICS IN STUDIO ART ²
ARS 440	SCULP: FABRICATION II
ARS 441	SCULP: CARVING II
ARS 442	SCULP: CASTING II
ARS 447	SCULP: SPACE AND PLACE II
ARS 495	INDEPENDENT PROJECTS ²

Art History Requirements:

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
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ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARH 309	CONTEMPORARY ART & ISSUES	3
Select one of the following 300-level Art History courses before 1800:		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Select one of the following 300-level Art History courses after 1800:		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Major Electives		12
Select 4 courses ARH/ARS 300-level or above		
Electives		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

¹ Depending on the topic of this course, it may satisfy either the Pre- or Post-1800 requirement, or function as an elective.

² Depending on the topic of this course, it may satisfy a major specific requirement. If the subject matter was not specific to sculpture, the class will count as a major elective.

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
Mathematics		3
ARS 123	2D DESIGN COLOR THEORY	3
ARS 160	DRAWING: FOUNDATIONS	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
ARS 140	3D DESIGN	3
ARS 240	SCULPTURE: INTRODUCTION	3
Social and Behavioral Science		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
Term Semester Hours:		15
Year 2		
Fall		
WLC 101		3
ARS 260	DRAWING: INTRODUCTION	3
3xx in Sculpture		3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARS 2xx introductory course		3
Term Semester Hours:		15

Spring

Science		4
ARH 103	ARH SUR: WORLD ART	3
ARS 3xx in Sculpture		3
ARS 3xx in Sculpture		3
HY 103 or 104		3
Term Semester Hours:		16
Year 3		
Fall		
ARS 390	PORTFOLIO DEVELOPMENT I	3
ARH 309	CONTEMPORARY ART ISSUES	3
EH 207 or 208		3
ARS 2xx introductory course		3
Science		4
BFA Portfolio Review		
Term Semester Hours:		16
Spring		
ARH 3xx Ancient		3
Fine Arts class GER		3
ARS 2xx introductory course		3
Area II class		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Year 4		
Fall		
ARS 4xx in Sculpture		3
ARH 3xx Modern		3
ARS/ARH 300+ elective		3
Social and Behavioral Science		3
ARS/ARH 300+ elective		3
Term Semester Hours:		15
Spring		
ARS 494	PROFESSIONAL PRACTICES	3
Area IV class		3
ARS 4xx in Sculpture		3
ARS/ARH 300+ elective		3
ARS 3xx in Sculpture		3
Term Semester Hours:		15
Total Semester Hours:		120

Art History Minor

Students focusing on the studio discipline are strongly encouraged to pursue a minor in Art History which will give them a better understanding of the visual arts tradition.

- 25% of the minor must be earned at UAH
- A minimum GPA of 2.0 is required in the minor
- Transfer students must take at least six semester hours of art courses at the 300+ level or above at UAH

Code	Title	Semester Hours
Required Courses		12
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	

ARH 309	CONTEMPORARY ART & ISSUES	
Pre-1800 (Select one of the following):		3
ARH 301	ANCIENT GREEK ART	
ARH 302	MEDIEVAL ART	
ARH 303	RENAISSANCE ART	
ARH 305	ANCIENT ROMAN ART	
ARH 306	COLLAPSE OF CIVILIZATIONS	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
Post-1800 (Select one of the following):		3
ARH 304	TWENTIETH CENTURY ART	
ARH 307	IMPRESSIONISM & POST-IMP	
ARH 310	NINETEENTH CENTURY ART	
ARH 311	PHILOSOPHY OF ART	
ARH 320	SPECIAL TOPICS IN ART HY ¹	
HY 310	INTRODUCTION TO PUBLIC HISTORY	
300+ ARH Elective Course (Choose from above)		3
Total Semester Hours		21

¹ Depending on the topic of this course, it may satisfy either the Pre- or Post- 1800 requirement, or function as an elective.

Game Design and Development Minor

- 25% of the minor must be earned at UAH
- A minimum GPA of 2.0 is required in the minor

Requirements for the Game Design and Development Minor include:

Code	Title	Semester Hours
Game Computing		9
CS 102 or CS 103	INTRO TO C PROGRAMMING INTRO PROGRAMMING USING JAVA	
CS 121	COMPUTER SCIENCE I	
CS 347 or ARS 311	INTRO VIDEO GAME DESGN & PROGM GAME DESIGN: SCRIPTING & DES I	
Game Animation		9
ARS 220	ANIMATION: INTRODUCTION ¹	
Select 2 of the following:		
ARS 321	ANIMATION: ORGANIC MODELING	
ARS 322	ANIMATION: 3D ANIMATION	
ARS 324	ANIMATION: TECHNICAL ARTS	
ARS 325	ANIMATION: HARD SURF MODELING	
ARS 329	ANIMATION: 2D ANIMATION	
ARS 416	ANIMATION: TEAM GAME DESN II	
Game Sound		3
Choose 1 of the following:		
MU 305	MUSIC TECHNOLOGY III ¹	
MU 306	MUSIC TECHNOLOGY IV ¹	
Game Design		9
ARS 210	GAME DESIGN: INTRODUCTION ¹	
EH 301 or EH 442	TECHNICAL WRITING USABILITY STUDIES	

or EH 454	NEW MEDIA WRITING & RHETORIC
ARS 415	ANIMATION: TEAM GAME DESN I
Total Semester Hours	
30	

¹ Listed prerequisites are not required for GDD minors taking this course. Please contact academic advising office or vinny.argentina@uah.edu for registration overrides.

Art Studio Minor

- 25% of the minor must be earned at UAH
- Transfer students must take at least six semester hours of art courses at the 300+ level at UAH
- A minimum GPA of 2.0 is required in the minor

21 semester hours within the Department of Art and Art History:

Code	Title	Semester Hours
ARS 160	DRAWING: FOUNDATIONS	3
Select two ARS 200-level studio courses ¹		6
Select four ARS 300-level studio courses ²		12
Total Semester Hours		21

¹ Although all 200-level studio courses with the exception of ARS 240 require ARS 123 and ARS 160 as pre-requisites, Art Studio minors may take these courses without the required pre-requisites. Please contact department chair or academic advising office for prerequisite override when registering.

² May include 400-level courses if the corresponding 300-level courses are successfully completed. For example, a student passing ARS 330 may take ARS 430 to count within the 12 semester hour total at the upper division.

Web Communications Minor

The Web Communications Minor requires 30 semester hours within Art and Art History, Information Systems, Technical Writing, and Marketing.

The Web Communications Minor offers an interdisciplinary plan of study in web development with an emphasis on web design, user experience/UX, and web management. This program combines courses in graphic design (ARS), programming (CS), information systems (IS), marketing (MKT), and technical writing (EH) to prepare students for work in the growing field of web-based communication. When combined with an appropriate major, the program prepares students for work in a number of increasingly web-reliant fields, including marketing, public relations, journalism, graphic design, user experience/UX, technical communication, corporate communication, and publishing.

The number of courses required for the minor is moderate at 30 semester hours; however, students may complete minor courses as part of their major. Students majoring in art studio, information systems, communication arts, and marketing are particularly well positioned to complete minor courses in their major degree programs with fewer semester hours of minor courses outside of the major. Students with other majors should contact the Program Director to determine the number of semester hours they can complete outside the minor. A certificate in Web Communications will be awarded to students who complete their coursework and maintain a minimum 2.5 grade point average in the minor.

Students lacking computer skills in Windows® and Macintosh® operating systems, word processing, and database applications are encouraged to take IS 146 prior to taking any of the technical courses in the minor. Familiarity with the Macintosh® operating system (OS) is useful for students entering ARS 230 and upper-level ARS courses in the minor. The Director of the Web Communications minor (256.824.6114) can advise students on the level of skill required for various courses.

- 25% of the minor must be earned at UAH
- A minimum GPA of 2.0 is required in the minor

Code	Title	Semester Hours
Courses in Graphic Design		
ARS 230	GRAPHIC DESIGN: INTRODUCTION	3
ARS 332	GRAPHIC DESIGN: WEB DESIGN	3
ARS 334	GRAPH DES: WEB USER EXPER I	3

ARS 432	GRAPH DES: SENIOR PROJ MGMT	3
Interdisciplinary Experience		
CS 103	INTRO PROGRAMMING USING JAVA	3
EH 301	TECHNICAL WRITING	3
MKT 301	PRINCIPLES OF MARKETING	3
Elective Courses		
Pick three from any group or pick three in an area of focus from the courses listed below:		9
Group A. User Experience (UX)		
ARS 434	GRAPH DES: WEB USER EXPER II	
CM 435	SOCIAL MEDIA	
EH 442	USABILITY STUDIES	
Group B. Web Writing and Social Media		
TH 210	WRITING FOR VISUAL MEDIA	
CM 313	BUSINESS & PROFESSIONAL COMM	
CM 435	SOCIAL MEDIA	
CM 444	ADVERTISING	
Group C. Web and Marketing		
MKT 315	SALES MGT/PROF SELLING	
MKT 332	BUYER BEHAVIOR	
MKT 343	MARKET RESEARCH DESIGN	
Group D. Information Systems		
IS 210	INTRO COMP PROG IN BUS	
IS 310	ADVANCED PROGRAMMING	
IS 340	DATABASE MANAGEMENT	
Group E. Internship		
ARS 492	ART INTERNSHIP	
Total Semester Hours		30

Communication Arts

Morton Hall, Room 278
 Telephone: 256.824.6871
 Email: commarts@uah.edu (comm@uah.edu)

UAH's Communication Arts program provides students with practical, critical, historical, and theoretical perspectives on human communication that prepares them for work, social life, and further academic studies. In addition to the sphere of the public speaker, we discuss areas of one-on-one (interpersonal) communication, small-group communication, communication in organizations, and mass communication. Gaining an understanding of the influence of media on communication, the various functions served by communication, and how people are persuaded are just a few of the many theoretical principles our students learn. Our program is designed for students who can write, speak, think, analyze, and imagine, and our classes enhance all of those skills.

The Communication Arts Department offers a Bachelor's of Arts with majors in Communication Arts and Writing and a Master's of Arts in Professional Communication.

Major in Communication Arts

- Communication Arts, BA (p. 100)
- Writing, BA (p. 262)

Minors in Communication Arts

- Communication Arts (p. 105)
- Writing (p. 124)
- UX Minor (p. 235)

Course Descriptions (Per Subject)

CM 113 – PUBLIC SPEAKING

Semester Hours: 3

Develops public speaking skills through an examination of rhetorical theory, training, and practice. Includes informative, persuasive, and other forms of speeches to prepare students for oral presentations in college and post-college ("real world") settings.

CM 205 - INTRO TO JOURNALISM

Semester Hours: 3

Focuses on basic news writing skills specific to print journalism. Students will learn to identify new based on news values, develop leads, organize information, write stories in the inverted pyramid style, revise drafts, and copy-edit articles, all while working under simulated deadline pressure.

CM 220 - INTRO PUBLIC RELATIONS

Semester Hours: 3

This course is designed to introduce students to the public relations profession. Through study of rhetorical and communication strategies, individual and group projects, as well as speaking and writing experiences, students gain the knowledge necessary to actively participate as effective public relation professionals.

CM 231 - FOUNDATIONS OF HUMAN COMMUNICA

Semester Hours: 3

Examines how human communication shapes and adapts to a variety of practical settings public, interpersonal, organizational, mass, and technical. It prepares students for effective work in various communication contexts.

CM 251 - DECISION-MAKING IN SMALL GROUP

Semester Hours: 3

Provides working knowledge of how small groups communicate in the decision-making process. Students put theory into practice by functioning as group participants, observers, and consultants. Emphasis is placed on leadership, theoretical application, group participation, and oral presentation.

CM 310 - PERSUASION

Semester Hours: 3

Provides foundation in the theories, principles, and strategies of social influence through theory and application. Students explore persuasive communication, social influence, and compliance-gaining from a social-scientific level and examine the production and consumption of persuasive messages.

CM 313 - BUSINESS & PROFESSIONAL COMM

Semester Hours: 3

Examines communication theories and practices relevant to the business context with a focus on oral presentations, interviewing, group leadership, and face-to-face communication. Develops knowledge and skills necessary for effective communication within business environments. (Prepare business administration students to meet the oral communication requirement in upper division and graduate business courses).

CM 320 - PRACTICUM IN WRITING

Semester Hours: 1-3

Writing and editing under the supervision of professionals. May be repeated up to 3 times for no more than 3 hours total credit. Enrollment requires advance planning. Prerequisites: CM 301, CM 302, enrollment in the Technical Writing Track, and a successful interview with the participating technical supervisor.

CM 330 - NONVERBAL COMMUNICATION

Semester Hours: 3

Examines the diversity of specific human nonverbal behavior, such as eye contact, touch, time, appearance, and distance and how the behaviors influence everyday communication experiences. Drawing on theory, students explore the practical ways verbal and nonverbal communication intersect in everyday interactions to create shared meaning. Same as PY 330.

CM 331 - COMMUNICATION THEORY

Semester Hours: 3

Examines significant theoretical frameworks for the study of human communication and mass communication. Develops knowledge of communication processes and social influence. Provides preparation for senior seminar in communication theory and research. Prerequisite: CM 231.

CM 333 - INTERPERSONAL COMMUNICATION

Semester Hours: 3

Provides an introduction to the process of communication between individuals. Course content focuses on the application of theory and research to dyadic relationships spanning intimates, families, and friends. Prerequisite: CM 231 or permission of instructor.

CM 340 - SPEC TOPICS IN COMM ARTS

Semester Hours: 3

Topics announced in advance. Representative topics include rhetoric and war, technical theatre, and culture and communication. May be repeated twice for credit.

CM 370 - COMM RESEARCH METHODS

Semester Hours: 3

Examines social scientific concepts, theories and designs commonly used interpersonal communication research. Develops knowledge and skills necessary for employment in fields involving the study of communication behavior and perception. Provides preparation for senior seminar in communication theory and research. Prerequisite: MA 107 or 110 or 112 or 113 or 115 or 120 or 171.

CM 375 - RHETORICAL CRITICISM

Semester Hours: 3

This course is an introduction to the critical analysis of public discourse. Specifically, it focuses on understanding how the variables of situation, audience, and rhetoric influence the production and reception of public messages. Teaching students to understand the persuasive potential of messages prepares them as critical consumers, analysts, and potential creators of such messages. Prerequisite: CM 113 or approval of instructor.

CM 400 - INTERNSHIP

Semester Hours: 1-6

Practical experience in the workplace allows the student to apply principles, theories, and skills learned in communication arts courses. Arranged by the student with consent of the chair, the student meets regularly with a faculty advisor, keeps a log of activities, and submits a report on the internship. Prerequisite: Senior Standing with CM major, and permission of instructor.

CM 405 - ADVANCED MEDIA WRITING

Semester Hours: 3

An upper level course that offers an overview of various media writing genres, including Broadcast, Advertising and Public Relations. Students complete a mix of timed assignments within each context to acquire a more complete survey of media writing and prepare for a career within the mass media. Prerequisite: CM 205.

CM 408 - CLASSICAL RHET THEORY

Semester Hours: 3

This course surveys the early development of rhetorical theory in the Western world, from its sophistic origins in the 5th century BCE, through the Greek philosophers and educators, to the Romans and early Christians. Prerequisites: CM 113.

CM 409 - CONTEMPORARY RHETORICAL THEORY

Semester Hours: 3

This course surveys contemporary rhetorical thought, including modern and postmodern theories. The course requires rigorous academic analysis and critique as students explore historical and current rhetorical concepts. Prerequisite: CM 113.

CM 414 - CREATIVE NONFICTION WRITING

Semester Hours: 3

This course introduces students to the genre of creative non-fiction. Undergraduate students will write five essays and revise toward a final writing portfolio.

CM 418 - LEGAL ARGUMENT

Semester Hours: 3

Examines argumentation in legal communities, that is, the way lawyers and judges provide reasoned support for the positions they defend concerning what the law requires in a given case. It considers common forms of legal argument, sources and forms of evidence, and legal values that underlie legal argument. It provides students with a critical perspective from which to judge legal arguments and a basic set of tools for developing legal arguments.

CM 420 - PUBLIC RELATIONS WRITING

Semester Hours: 3

This course provides students with professionalization in their writing and editorial skills in public relations. By emphasizing different audiences and various media, students will find and hone their public relations voice. Students will gain experience with instant responses, making ethical and legal decisions, and practicing a wide range of PR writing and design including the development of media kits, pitches, backgrounders, press releases, memos, newsletters, radio announcements, and brochures. Prerequisite: CM 220 (C or better).

CM 430 - MASS MEDIA IN AMERICA

Semester Hours: 3

This course provides an overview of major forms of mass media communication. It focuses on both print and electronic media, its history and structure as well as on theories of mass communication. Students will become familiar with the current role and influence of media in society.

CM 431 - SENIOR SEMINAR

Semester Hours: 3

Senior capstone course involving either a scholarly project or an approved communication-intensive internship. Prerequisites: CM 370 and CM 375, and senior standing.

CM 433 - DARK SIDE INTERPERSONAL COMM

Semester Hours: 3

Traditional Interpersonal Communication pedagogy focuses on more of the positive aspects of relationship formation and maintenance. This course offers a more complete view of human relationships by exploring a variety of topics related to the "darker" side of relationships situated in the contexts of friendships, family members, and intimates. By exploring issues such as deception, fatal attraction, jealousy and envy, conflict, stalking, abuse, and many others, students acquire a more complete view of human relationships. Prerequisite: CM 231.

CM 435 - SOCIAL MEDIA

Semester Hours: 3

This course focuses on uses and effects of social media in interpersonal, organizational, mass mediated, health, and political settings. Social media technologies take on many different forms including social networking sites, micro-blogging, wikis, online videos, and blogs. Following questions are discussed in class: Who uses social media? How do people use social media to develop relationships, get social support, and evoke political change? Is privacy dead? How do employers use social media to check on employees?

CM 440 - PUBLIC RELATIONS CAMPAIGN

Semester Hours: 3

This course provides professionalization and team work experience for students in the public relations track. Students practice the research, planning, implementation, and evaluation of strategic communication plans for various public relations contexts. Prerequisite: CM 220 (C-or better).

CM 444 - ADVERTISING

Semester Hours: 3

This course will examine the emergence of advertising as a form of communication, its influence upon other forms of mediated communications and its impact upon culture and society. Students will learn how to develop and present an advertising strategy for an actual brand. Prerequisite: Junior standing.

CM 451 - ORGANIZATIONAL TRNG & DEVELOP

Semester Hours: 3

Provides upper-level undergraduates with the opportunity to learn how to design organizational training programs beginning with the needs assessment and continuing through the evaluation and implementation phases. Prerequisite: Junior standing.

CM 452 - USER CENTERED DESIGN

Semester Hours: 3

Introduces students to user-centered design principles that inform the practice of user experience design. Students will use visual thinking as they complete contextual inquiries and mapping exercises.

CM 454 - NEW MEDIA WRITING & RHETORIC

Semester Hours: 3

This course teaches students to apply rhetorical principles across a variety of media and includes an examination of communication strategies used widely in academic and industry settings. The course focuses on new media through an exploration of digital technologies and the way digital culture and new media have dramatically impacted reading, writing, and research practices. Prerequisites: EH 101 and EH 102.

CM 455 - COMMUNICATION & CULTURE

Semester Hours: 3

This course focuses on the application of theory and research to intercultural communication. Topics and activities assist the students in developing communication skills that improve their competence in intercultural situations. By addressing the different world views that shape our perceptions, values, attitudes, and beliefs of different people, the Culture and Communication course challenges students to become aware of cultural differences, avoid ethnocentrism, and work toward effective communication with unlike others. Prerequisite: Junior standing.

CM 460 - CRISIS COMMUNICATION

Semester Hours: 3

During a time where companies face instant and intense scrutiny. It is imperative to know how to use effective crisis management. This course focuses on the steps of crisis and issue management. It also includes in-depth analysis of current crisis situations.

CM 499 - INDEPENDENT STUDY

Semester Hours: 3

Directed, independent study allows a student to explore an approved scholarly inquiry within Communication Arts, and under the direction of a CM faculty member, resulting in a research paper or project. Student must present a project prospectus, or detailed syllabus, for approval of the faculty member and the department chair. JR or SR standing required.

Communication Arts, BA

Students wishing to major in Communication Arts should make that declaration at or before the beginning of the sophomore year. Students need to work closely with an academic advisor to plan a program of study. A major in Communication Arts consists of 36 semester hours of coursework in the major, at least 21 semester hours of which must be at or above the 300-level.

- Communication Arts, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F or WLC 202G	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN	

or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	

Area IV: History and Social and Behavioral Sciences***12**

History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
WLC 101, 102, 201, or 202		
CM 231 is allowed to share between Area V and the major, however the hours only count once toward overall credits earned		
Choose 13 additional credit hours from the above listed English Literature, Fine Arts, Humanities, History, Mathematics, Science, or Social and Behavioral Sciences.		
Communication Arts Major Requirements		36
CM 113	Intro to Rhetorical Communication	
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	
CM 331	COMMUNICATION THEORY	
or CM 408	CLASSICAL RHET THEORY	
or CM 409	CONTEMPORARY RHETORICAL THEORY	
CM 370	COMM RESEARCH METHODS	
CM 375	RHETORICAL CRITICISM	
CM 431	SENIOR SEMINAR	
Choose three CM 300+ ¹		
Choose three CM Electives at any level		
Minor Courses		18+
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ CM 313 is not allowed to count in CM major or minor.

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
FYE 101	CHARGER SUCCESS	1
WLC 101		3

Social and Behavioral Science		3
Math 1XX		3
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
CM 113	Intro to Rhetorical Communication	3
Fine Arts		3
Social/Behavioral Science		3
Science w/Lab		4
Term Semester Hours:		16
Year 2		
Fall		
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
HY 103	WORLD HISTORY TO 1500	3
Area V GER Course		3
Humanities or Literature		3
Minor Course		3
Term Semester Hours:		15
Spring		
CM Elective		3
HY 104	WORLD HISTORY SINCE 1500	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
Science w/Lab		4
Minor Course		3
Term Semester Hours:		16
Year 3		
Fall		
CM 375	RHETORICAL CRITICISM	3
CM Elective		3
Minor Course		3
Area V GER Course		3
Area V GER Course		3
Term Semester Hours:		15
Spring		
CM 331	COMMUNICATION THEORY	3
or CM 408	or CLASSICAL RHET THEORY	
or CM 409	or CONTEMPORARY RHETORICAL THEORY	
CM 300+		3
Minor Course		3
CM elective		3
Area V GER Course		3
Term Semester Hours:		15
Year 4		
Fall		
CM 370	COMM RESEARCH METHODS	3
CM 300+		3
Minor Course		6
Elective		3
Term Semester Hours:		15
Spring		

CM 431	SENIOR SEMINAR	3
CM 300+		3
Minor Course		3
Area V GER course		3
Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

Communication Arts Minor

A minor in Communication Arts consists of 21 semester hours of coursework taken within the department, at least 12 semester hours of which must be taken at or above the 300-level.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor
- At least 6 hours of upper level credit in the minor must be earned at UAH.

All Communication Arts minors require the following:

Code	Title	Semester Hours
CM 113	Intro to Rhetorical Communication	3
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
CM 331 or CM 408 or CM 409		3
9 semester hours of CM electives at the 300 level or higher ¹		9
3 semester hours of CM electives at any level		3
Total Semester Hours		21

¹ CM 313 is not allowed to count in minor.

English

Morton Hall, Room 278
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 Email: eh@uah.edu

Mission Statement

The English Department is comprised of scholar-teachers committed to the promotion of literacy and the cultivation of scholarly and professional competencies in critical thinking and persuasive writing across a wide spectrum of literary, technical, and rhetorical situations. We foster intellectual and cultural diversity, originality of thought, and clarity and cogency of expression through degree programs designed to advance careful, sophisticated reading practices as well as complex analytical and research skills. We aim to cultivate our students' management, organization, and production of knowledge. Our curricula prepare students for a wide array of professional endeavors, including law, teaching, publishing, technical communication, advertising, media, and business, as well as the pursuit of advanced degrees.

The Department of English offers courses to fulfill requirements for the following:

MAJORS

- BA in English (p. 113)
- BA in English/Language Arts (for students seeking teacher certification) (p. 118)
- BA in Writing (p. 262)

MINORS

- Creative Writing (p. 124)
- English (p. 123)
- Technical Writing (p. 124)

- User Experience (p. 235)
- Writing (p. 124)

Majors in English

- English, BA (p. 113)
- English, BA - Language Arts (For Students Seeking Teacher Certification) (p. 118)
- Writing, BA (p. 262)

Minors in English

- English (p. 123)
- Creative Writing (p. 124)
- Technical Writing (p. 124)
- User Experience (p. 235)
- Writing (p. 124)

EH 101 - COLLEGE WRITING I Semester Hours: 3

Introduction to academic writing, critical reading, and rhetorical knowledge.

EH 101L - STUDIO FOR COLLEGE WRITING I Semester Hours: 0

A writing workshop/lab to be taken concurrently with EH 101S. The course provides supplementary instruction and practice in written English language skills, editing techniques, writing strategies (brainstorming, drafting, revising editing) as well as critical reading, skimming, scanning, inferring) for students needing additional support. Students must pass EH 101L to pass EH 101S.

EH 101S - COLLEGE WRITING I W/STUDIO Semester Hours: 3

Introduction to academic writing, critical reading, and rhetorical knowledge. For students whose preparation suggests a need for intensive support as they progress through the composition sequence. Requires concurrent registration in studio section 101L.

EH 102 - COLLEGE WRITING II Semester Hours: 3

Intermediate academic writing. Focuses on research questions and techniques, as well as critical engagement with published and student texts. Prerequisite: EH 101 or 101S with minimum grade of C-.

EH 103 - ACCELERATED COLLEGE WRITING Semester Hours: 3

Accelerated introduction to academic writing, critical reading, and research questions. Focuses on research questions and techniques, as well as critical engagement with published and student texts. Prerequisites: minimum high school GPA 3.5; minimum 26 on ACT or minimum 1170 on SAT.

EH 105 - HONORS ENGLISH SEMINAR Semester Hours: 3

Interpretive and comparative readings in texts of enduring intellectual, esthetic, and ethical importance; critical and analytic writing and research projects. Grading Scale: A, B, C, D, F. Minimum grade of C- required to advance to 200-level English classes. Prerequisites: Formal admission to the University Honors College.

EH 207 - READINGS LITERATURE/CULTURE I Semester Hours: 3

Critical analysis of texts from ancient times through the Age of Discovery. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 208 - READINGS LITERATURE/CULTURE 2 Semester Hours: 3

Critical analysis of texts from the Age of Discovery through the present. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 209 - HONORS SEM READINGS LIT/CUL I**Semester Hours: 3**

Critical analysis of texts from ancient times through the Age of Discovery. The course offers an in-depth examination of important works and their cultural contexts in a seminar format. Prerequisite: EH 102 or EH 103 or EH 105, and Honors College Student.

EH 210 - HONORS SEM READINGS LIT/CUL 2**Semester Hours: 3**

Critical analysis of texts from the Age of Discovery through the present. The course offers an in-depth examination of important works and their cultural contexts in a seminar format. Prerequisite: EH 102 or EH 103 or EH 105, and Honors College Student.

EH 211 - INTRO CREATIVE WRITING**Semester Hours: 3**

Students will discuss contemporary stories/poems and will participate in workshops, where their own poetry and fiction is examined and critiqued by the class and instructor. The class culminates in two revision portfolios (one fiction and one poetry). Prerequisite: EH 102 or EH 103 or EH 105.

EH 241 - LITERATURE WITHOUT BORDERS**Semester Hours: 3**

Reading, discussing, analyzing, and writing about literature without borders (might include global perspectives, transnational literature, travel memoirs, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 242 - MYTHOLOGY**Semester Hours: 3**

Reading, discussing, analyzing, and writing about the topic of mythology (might include classical and/or modern myths, non-western traditions, folktales, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisite: EH 102 or EH 103 or EH 105.

EH 243 - PROTEST LITERATURE**Semester Hours: 3**

Reading, discussing, analyzing, and writing about protest literature (might include transgressive literature, literature that deals with social problems, satire, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 244 - HEROES &/OR MONSTERS**Semester Hours: 3**

Reading, discussing, analyzing, and writing about heroes and/or monsters (might include heroes, antiheroes, monster literature, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 245 - LOVE &/OR ROMANCE**Semester Hours: 3**

Reading, discussing, analyzing, and writing about the topic of love and/or romance (might include love and its challenges, platonic love, the absence of love, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 246 - SPECULATIVE REALITIES**Semester Hours: 3**

Reading, discussing, analyzing, and writing about speculative realities (might include utopia/dystopia, science fiction, alternate realities, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 260 - INTRO TO WRITING MAJOR**Semester Hours: 2**

An introduction to the Writing B.A., this course will overview the field of Writing Studies, its methods of inquiry, and the interdisciplinary nature of its rhetoric, composition and language/literacy influences. Prerequisite: EH 102 or EH 103 or EH 105.

EH 300 - STRATEGIES FOR BUSINESS WRIT'G

Semester Hours: 3

Practical business writing with emphasis on rhetoric, organization, and research. Open to all students in the College of Business or by permission of the Department of English. Qualifies as elective in the English major. Does not count toward English minor. Junior standing required. Prerequisite: EH 102 or EH 103 or EH 105.

EH 301 - TECHNICAL WRITING

Semester Hours: 3

Practical writing, especially technical or scientific reports and proposals, with emphasis on organization, research, and presentation. Qualifies as elective in English major. Does not count toward English minor except Cognate Studies in Technical Writing. Prerequisite: junior standing and EH 102 or EH 103 or EH 105.

EH 302 - TECHNICAL EDITING

Semester Hours: 4

Clarifying, expanding, reducing, and rewriting technical reports and other documents created by others. Emphasis on elements of style and usage, revision, proofreading, and application of rhetorical techniques to the work of engineers, scientists, and technicians. Includes lab emphasizing software skills useful for technical editing. Qualifies as elective in English major. Does not count toward English minor without special approval. Prerequisite: EH 301.

EH 303 - PRAC & RSRCH IN TECH COMM

Semester Hours: 3

Provides an overview of technical communication as a career field and as a research field. Introduces students to best practices and career options in technical communication and to the research methods used by technical communication practitioners and researchers. Does not count toward English minor without special approval. Prerequisite: EH 301.

EH 305 - INTRO TO LITERARY STUDIES

Semester Hours: 3

Designed as an introduction to the study of literature, this course will address the history of textual interpretation, the practice of literary analysis, the theoretical debates central to literary studies, and the basic research and writing skills required for literary criticism. Prerequisites: EH 207, EH 208, EH 209, EH 210, or EH 242.

EH 320 - PRACTICUM IN WRITING

Semester Hours: 3

Writing and editing under the supervision of professionals. Enrollment requires advance planning. Does not count toward English minor without special approval.. Prerequisite: EH 301 and EH 302.

EH 335 - SURVEY BRITISH LITERATURE

Semester Hours: 3

Writers, genres, and periods from Beowulf through the present. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 336 - SURVEY AMERICAN LITERATURE

Semester Hours: 3

Writers, genres, and periods from the Age of Discovery through the present. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 340 - ACADEMIC WRITING

Semester Hours: 3

Advanced academic writing designed to prepare students for the writing, research, and publishing requirements of their field of study. Prerequisite: EH 102 or EH 103 or EH 105.

EH 400 - COMPOSITION STUDIES FOR TCHERS

Semester Hours: 3

Introduction to effective strategies for the teaching of writing. Students will report on their own writing pedagogy as a result of reading and analyzing a range of writing research related to strategies of assigning, responding and assessing writing. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 401 - THEORY & PRACTICE IN TECH COMM

Semester Hours: 3

Explores the relationships between common practices in technical communication and the theories that legitimize those practices. Introduces students to research and theories about fundamental issues in technical communication which may then become the basis for further graduate study in technical communication. Prerequisite: EH 301 or CM 301.

EH 403 - LITERARY CRITICISM & THEORY

Semester Hours: 3

Major texts and approaches from Plato to the present. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 406 - FEMINISM AND COMPOSITION

Semester Hours: 3

Explores issues of gender in writing: postmodern feminism, feminist theories and research, gender and forms of writing, and finally, gender, teaching and identity. Students will investigate and analyze composition scholarship through reading, writing, and collaborative inquiry. Prerequisite: EH 207, EH 208, EH 209, EH 201 or EH 242.

EH 408 - HISTORY OF ENGLISH LANGUAGE

Semester Hours: 3

History of the emergence and development of English from the pre-Anglo-Saxon period to the present. Emphasis on cultural contexts. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 409 - PROPOSAL WRITING

Semester Hours: 3

This course teaches effective strategies for writing successful proposals in business, academic, research, and non-profit contexts. Senior standing required.

EH 410 - FICTION WRITING

Semester Hours: 3

Practice in writing fiction from conception to revision. Students will read and write contemporary literary fiction. Student work will be commented on and critiqued in regular class workshops. The class culminates in a revision portfolio. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 411 - POETRY WRITING

Semester Hours: 3

Practice in writing poetry from conception to revision. Students will read and write contemporary poetry. Student work will be commented on and critiqued in regular class workshops. The class culminates in a revision portfolio. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 412 - SPEC STUDIES CREATIVE WRITING

Semester Hours: 3

Topics in creative writing, professional writing, or other advanced writing announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 413 - CHILDREN'S & ADOLESCENT LIT

Semester Hours: 3

Course content will include the study of various genres of children's and adolescent literature and their relationship to beginning reading, enhancement of reading comprehension, and intervention instruction in the various content areas. Prerequisite: EH 207 and EH 208 or EH 209 and 210.

EH 414 - CREATIVE NONFICTION WRITING

Semester Hours: 3

This composition class introduces students to the genre of creative non-fiction via revising, peer responding, prose modeling, and conferencing; and developing expertise in rhetorical writing concepts. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 415 - ANGLOPHONE/POSTCOLONIAL LIT

Semester Hours: 3

An introduction to major concepts, figures, and works with emphasis upon historical and cultural context. Specific focus will vary. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 418 - REP TEXTS-WOMEN WRITERS

Semester Hours: 3

Focus on women's contribution to the literary tradition. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 420 - WRITING FOR TECH PROFESSIONALS

Semester Hours: 3

Teaches students in disciplines such as science, engineering, nursing, and user experience to improve their writing skills and produce important academic and professional documents. Junior standing required.

EH 422 - STUDIES IN THE NOVEL

Semester Hours: 3

Focuses on varying topics in the novel with special attention to form. Texts may be drawn from diverse national and cultural origins. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 423 - CONTEMPORARY BRITISH LITERATURE

Semester Hours: 3

Major works after 1945 with emphasis on historical and cultural contexts. Specific focus will vary. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 424 - POETRY AND POETICS

Semester Hours: 3

An attempt to answer (at least provisionally) the questions "What is a poem?" and "What is poetry?". How to read a poem closely and carefully, with attention to theory, history of genres, and especially the technical aspects of poetry. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 425 - LITERATURE, SCIENCE & TECH

Semester Hours: 3

Considers the relationships among literature, scientific theories, and technological practices through a study of texts from ancient times to the present. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 429 - STUDIES IN AMERICAN CINEMA

Semester Hours: 3

Focuses on select topics in American cinema with an emphasis on film history, technique, aesthetics, and cultural context. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 430 - THE AMERICAN NOVEL

Semester Hours: 3

The American novel. In alternate years the course may focus on 19th or 20th century American novels. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 432 - AMERICAN LITERARY MODERNISM

Semester Hours: 3

Major writers and cultural/historical events surrounding American Modernism, with a focus on long texts and shorter forays into the major poets. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 433 - WILLIAM FAULKNER

Semester Hours: 3

Critical study of the major novels. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 434 - SCIENCE FICTION

Semester Hours: 3

Selected short stories and novels, exploring the thematic and narrative concerns of both classic and contemporary science fiction. In alternate years, the course may focus on a specific problem or concern in science fiction. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 435 - SPECIAL STUDIES AMERICAN LIT

Semester Hours: 3

Topics announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 437 - THE AMERICAN NINETEENTH CENTURY

Semester Hours: 3

This class will investigate Anglophone cultural expression and literary critical traditions associated with the long nineteenth century (1789-1919). Specific thematic concern or period of focus is left to the discretion of the instructor. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 438 - AFRICAN AMERICAN LITERATURE

Semester Hours: 3

Themes, concepts and imagery in the Black American literary tradition. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 439 - ETHNIC AMERICAN NOVEL

Semester Hours: 3

Race, ethnicity, and the 20th-century American Novel. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 440 - SPECIAL TOPICS ENGLISH STUDIES

Semester Hours: 3

Topics announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 442 - USABILITY STUDIES

Semester Hours: 3

Introduces students to theory and practice of usability, which involves designing useful, easy-to-use websites, software, and products. The course involves group projects conducting real-world usability testing. Junior standing required.

EH 448 - THE BIBLE AS LITERATURE

Semester Hours: 3

An introduction to the major literary forms of the Bible. Material will be approached analytically, involving both socio-historical and literary-critical perspectives. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 450 - CHAUCER

Semester Hours: 3

A study of Geoffrey Chaucer's Middle English works including the early drama visions, Troilus and Criseyde, and the Canterbury Tales. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 451 - ARTHURIAN ROMANCE

Semester Hours: 3

A study of Arthurian Literature focused on medieval Welsh, Scottish, English, and French poetry and prose, as well as early-modern and modern adaptations of Arthurian stories in poetry, prose, drama, and film. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 452 - USER CENTERED DESIGN

Semester Hours: 3

Introduces students to user-centered design principles that inform the practice of user experience design. Students will use visual thinking as they complete contextual inquiries and mapping exercises.

EH 454 - NEW MEDIA WRITING & RHETORIC

Semester Hours: 3

This course teaches students to apply rhetorical principles across a variety of media and includes an examination of communication strategies used widely in academic and industry settings. The course focuses on new media through an exploration of digital technologies and the way digital culture and new media have dramatically impacted reading, writing, and research practices. Prerequisites: EH 101 and EH 102.

EH 460 - SIXTEENTH-CENTURY LITERATURE

Semester Hours: 3

Selected works from the reigns of Henry VIII and Elizabeth I. Close readings of texts in their historical, intellectual, and social contexts. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 461 - SHAKESPEARE I

Semester Hours: 3

Introduction to Shakespeare's canon, selected from tragedies, comedies, histories, romances. The course may include a variety of critical approaches (historical, political, feminist, queer, performative, linguistic, and cultural). Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 462 - SHAKESPEARE II

Semester Hours: 3

Specialized study of Shakespeare's works, with particular attention to a given genre, time period, theme, cultural context, and/or critical/theoretical approach. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 463 - CAPSTONE IN WRITING

Semester Hour: 1

A senior capstone course for the Writing BA for which students will complete a portfolio of their writing. Portfolios will include reflection on and revision to selected samples of course-participants' writing and a scholarly project completed for the capstone course. Prerequisites: EH 260.

EH 465 - DRAMATIC LITERATURE

Semester Hours: 3

Studies in Drama and interpretive strategies for reading plays. May be organized nationally, by genre, or by theme/topic. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 470 - MILTON

Semester Hours: 3

A study of the development of Milton's thought and art as it appears in his early poems, selected prose, and later poetry, with particular attention given to Paradise Lost. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 473 - EARLY MODERN LITERATURE

Semester Hours: 3

This course will examine a particular theme, issue and/or debate within the early modern period, roughly 1500-1700: constructions of subjectivity and community, the exploration of the New World, the rediscovery of the natural world through scientific investigation. The course will likely introduce modern scholarship. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 475 - RHETORIC AND WRITING

Semester Hours: 3

Provides a focused look at specific issues of rhetoric in society, with an emphasis on academic analysis and rhetorical strategy.

EH 480 - THE LONG EIGHTEENTH CENTURY

Semester Hours: 3

Introduction to major works from the Restoration through the American and French Revolutions, 1680-1800, with an emphasis on Britain and the colonies. Topics may include: the rise of the novel, the rise of the lyric, consciousness of modernity, satire, book history, working-class writers, female authorship, and empire. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 485 - THE ENLIGHTENMENT

Semester Hours: 3

The European Enlightenment emphasized the importance of reasoned, open-eyed investigations into nature and human society. Its legacies include the scientific method, the valuation of universal human rights, and the American and French Revolutions. Authors may include: Bacon, Behn, Hume, Swift, Voltaire, Montagu, Franklin, Jefferson, Equiano, and Wollstonecraft. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 498 - INDEPENDENT STUDY

Semester Hours: 3

Individual investigation into significant issues in linguistics, literature, technical communication, or composition studies under direct supervision of instructor. Prerequisites: Written approval by the instructor and the department chair of a project prospectus. Junior or Senior standing.

EH 499 - SENIOR RESEARCH PROJECT

Semester Hours: 3

Required: special approval from chair and instructor.

EHL 301 - TECH WRTG FOR GRAD STUDENTS

Semester Hours: 3

Practical writing, especially technical or scientific reports and proposals, with emphasis on organization, research, and presentation. Designed to address the specific needs of nonnative speakers of English who are developing their skills in written discourse. Prerequisite: ESL 103.

EHL 409 - SPEC STUDIES: APPL LINGUISTICS

Semester Hours: 3

Special topics in linguistics. Focus and emphasis of topics announced in advance.

ESL 400 - POLICY & PRAC IN EDUC LINGUIST

Semester Hours: 3

In this course, we will investigate the sociocultural and political contexts within which linguistically diverse students encounter language across the U.S. education system. We will interrogate assumptions about language learning and teaching. Key topics include promising practices in supporting language and identity, such as translanguaging, multimodality, and multilingualism in educational and community settings.

ESL 410 - INTRO TO LANGUAGE SYSTEMS

Semester Hours: 3

In this course, we study language systems in context. Phonetics, phonology, morphology, syntax, and semantics are the units of analysis as we consider variables that impact development and usage at individual and group levels. Comprehension and production of meaning across content domains are key elements of course assignments.

ESL 420 - INSTR & ACADMC LANG CNTNT DOMN

Semester Hours: 3

In this course, we investigate language usage through analysis of key structures, including the word, group, phrase, sentence and extended discourse. Following the systemic-functional framework, we will consider the design of instructional and academic language from a social semiotic perspective, highlighting the complex of options available for meaning making across multiple languages.

ESL 430 - SPECIAL TOPICS IN ESOL

Semester Hours: 3

This course students to current issues and trends within educational practice, policy, research, and theory as they relate to the broader context of English as a Second Language (ESOL). Students investigate issues of teaching and learning within the broader sociocultural context, including basic exploration of current research and debate within education. Topics may vary with each offering.

ESL 440 - INSTRUC & EVAL OF LANG USE

Semester Hours: 3

This course provides the foundation for effective instruction of linguistically diverse students. We critique the theoretical underpinnings of historical and contemporary ESOL education as well as the selection of instructional materials, course design, and lesson plans. Assignments include the design of pedagogically sound classroom instruction and lesson plans, as well as application of responsive, evidence-based evaluation methods.

English, BA

- English, BA requires 120 total credit hours.
- Two courses (6 semester hours) at the 400 level are required in the major.
- No more than three sophomore literature courses (9 semester hours) may count in the major.
- No more than three courses (9 semester hours) in creative writing.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be completed at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Double counting of classes must be approved through the CAHS advising office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	

EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	

MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Area V allows no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
WLC 101, 102, 201, or 202		3
Choose 16 additional credit hours from the above listed English literature, Fine Arts, Humanities, History, Mathematics, Science, and Social and Behavioral Sciences		16
English Major Requirements ¹		36
Core Courses		12
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 242	MYTHOLOGY	
or EH 208	READINGS LITERATURE/CULTURE 2	
or EH 209	HONORS SEM READINGS LIT/CUL I	
or EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 211	INTRO CREATIVE WRITING	3
EH 305	INTRO TO LITERARY STUDIES	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	TECHNICAL WRITING	
or EH 340	ACADEMIC WRITING	
Electives ²		24
Select 8 additional courses from the following:		
EH 242	MYTHOLOGY	
EH 209	HONORS SEM READINGS LIT/CUL I	
or EH 207	READINGS LITERATURE/CULTURE I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
or EH 208	READINGS LITERATURE/CULTURE 2	
EH 301	TECHNICAL WRITING	
or EH 300	STRATEGIES FOR BUSINESS WRIT'G	
EH 302	TECHNICAL EDITING	
EH 303	PRAC & RSRCH IN TECH COMM	
EH 320	PRACTICUM IN WRITING	
EH 340	ACADEMIC WRITING	
EH 400	COMPOSITION STUDIES FOR TCHERS	
EH 401	THEORY & PRACTICE IN TECH COMM	
EH 403	LITERARY CRITICISM & THEORY	
EH 406	FEMINISM AND COMPOSITION	
EH 408	HISTORY OF ENGLISH LANGUAGE	
EH 409	PROPOSAL WRITING	
EH 410	FICTION WRITING	
EH 411	POETRY WRITING	
EH 412	SPEC STUDIES CREATIVE WRITING	
EH 413	CHILDREN'S & ADOLESCENT LIT	
EH 414	CREATIVE NONFICTION WRITING	
EH 415	ANGLOPHONE/POSTCOLONIAL LIT	
EH 418	REP TEXTS-WOMEN WRITERS	
EH 420	WRITING FOR TECH PROFESSIONALS	
EH 422	STUDIES IN THE NOVEL	
EH 423	CONTEMPORARY BRITISH LITERATUR	
EH 424	POETRY AND POETICS	
EH 425	LITERATURE, SCIENCE & TECH	
EH 429	STUDIES IN AMERICAN CINEMA	

EH 430	THE AMERICAN NOVEL
EH 432	AMERICAN LITERARY MODERNISM
EH 433	WILLIAM FAULKNER
EH 434	SCIENCE FICTION
EH 435	SPECIAL STUDIES AMERICAN LIT
EH 437	THE AMERICAN NINETEENTH CNTRY
EH 438	AFRICAN AMERICAN LITERATURE
EH 439	ETHNIC AMERICAN NOVEL
EH 440	SPECIAL TOPICS ENGLISH STUDIES
EH 442	USABILITY STUDIES
EH 448	THE BIBLE AS LITERATURE
EH 450	CHAUCE
EH 451	ARTHURIAN ROMANCE
EH 452	USER CENTERED DESIGN
EH 454	NEW MEDIA WRITING & RHETORIC
EH 460	SIXTEENTH-CENTURY LITERATURE
EH 475	RHETORIC AND WRITING
EH 461	SHAKESPEARE I
EH 462	SHAKESPEARE II
EH 465	DRAMATIC LITERATURE
EH 470	MILTON
EH 473	EARLY MODERN LITERATURE
EH 480	THE LONG EIGHTEENTH CENTURY
EH 485	THE ENLIGHTENMENT
EH 498	INDEPENDENT STUDY
EH 499	SENIOR RESEARCH PROJECT

Minor Courses **18+**

Elective Courses

Elective hours vary by program, see advisor.

Total Semester Hours **120**

¹ 12 Hours at the upper level (300+) must be earned at UAH.

² In the electives area, only one class may be at the 200 level, no more than 9 hours may be in creative writing, and 6 of the hours must be at the 400+ level.

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
Fine Arts		3
Social/Behavioral Science		3
Math		3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
Humanities or Fine Arts		3
Social/Behavioral Science		3
Science w/Lab		4
HY 104	WORLD HISTORY SINCE 1500	3
or HY 103	or WORLD HISTORY TO 1500	
Term Semester Hours:		16

Year 2

Fall

WLC 101		3
English Literature Course		3
Social/Behavioral Science or other History course		3
Science w/Lab		4
Area V Course		3
Term Semester Hours:		16
Spring		
EH 211	INTRO CREATIVE WRITING	3
Area V Courses		6
Minor Courses		6
Term Semester Hours:		15
Year 3		
Fall		
EH 305	INTRO TO LITERARY STUDIES	3
English Elective 200+		3
English Elective 300+		3
Area V Courses		6
Term Semester Hours:		15
Spring		
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
or EH 340	or ACADEMIC WRITING	
English 300+ Elective		3
English 300+ Elective		3
Minor Course		3
Area V Course		3
Term Semester Hours:		15
Year 4		
Fall		
English 300+ Elective		3
English 300+ Elective		3
Minor Courses		6
Elective		3
Term Semester Hours:		15
Spring		
English 300+ Electives		6
Minor Courses		6
Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

English, BA - Language Arts (For Students Seeking Teacher Certification)

- English, BA Curriculum II requires 136 credit hours.
- 39 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 64 credit hours from a two-year school can be applied toward a UAH degree.

- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Freshman Composition		6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		12*
Choose one Fine Arts from the following categories below		
Fine Arts: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL (Choose one Fine Arts from the following categories below)	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
MU 100	INTRO TO MUSIC LITERATURE	
TH 122	THEATRE APPRECIATION	
FMA 123	INTRO TO FILM STUDIES	
*Students will fulfill Literature requirements within the English Major Core (6 out of 12 credit hours in Area II)		
*Students will fulfill a Humanities requirement with CM 113 in the English Major Core (3 out of 12 credit hours in Area II)		
Mathematics and Natural Sciences		11
Mathematics: Choose one		3-4
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
Natural Sciences: Choose two		8
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 104	WEATHER & CLIMATE CHANGE	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 119	PRINCIPLES OF BIOLOGY	
BYS 120	ORGANISMAL BIOLOGY	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113/116	GEN PHYSICS W/CALC III	
History and Social and Behavioral Sciences		12
History: Choose one		3
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	

HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences: Choose three		9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Area V allows no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		23
CM 231, TH 221, and CM 205 may count in Pre-Professional area and EH major. They may not count in any other area of the GER. The hours only count once towards overall credit hours.		
Choose 14 additional credit hours from the above listed Fine Arts, Humanities, Literature, Mathematics, Sciences, History, and Social and Behavioral Sciences.		
English Language Arts Major Requirements		45
Select 6 semester hours from the following:		6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Introduction to the English Major and Minor		
EH 305	INTRO TO LITERARY STUDIES	3
Survey of General Linguistics		
ESL 410	INTRO TO LANGUAGE SYSTEMS	3
Composition Studies for Teachers		
EH 400	COMPOSITION STUDIES FOR TCHERS	3
American Literature		
Select 3 semester hours from the following:		3
EH 336	SURVEY AMERICAN LITERATURE	
EH 422	STUDIES IN THE NOVEL	
EH 429	STUDIES IN AMERICAN CINEMA	
EH 430	THE AMERICAN NOVEL	
EH 432	AMERICAN LITERARY MODERNISM	
EH 433	WILLIAM FAULKNER	
EH 435	SPECIAL STUDIES AMERICAN LIT	
EH 437	THE AMERICAN NINETEENTH CNTRY	
EH 438	AFRICAN AMERICAN LITERATURE	
EH 439	ETHNIC AMERICAN NOVEL	
English Literature		
Select 3 semester hours from the following:		3
EH 335	SURVEY BRITISH LITERATURE	
EH 418	REP TEXTS-WOMEN WRITERS	
EH 422	STUDIES IN THE NOVEL	

EH 423	CONTEMPORARY BRITISH LITERATUR
EH 440	SPECIAL TOPICS ENGLISH STUDIES
EH 450	CHAUCE
EH 451	ARTHURIAN ROMANCE
EH 460	SIXTEENTH-CENTURY LITERATURE
EH 461	SHAKESPEARE I
EH 462	SHAKESPEARE II
EH 470	MILTON
EH 473	EARLY MODERN LITERATURE
EH 480	THE LONG EIGHTEENTH CENTURY
EH 485	THE ENLIGHTENMENT

The Novel

Select 3 semester hours from the following: 3

EH 422	STUDIES IN THE NOVEL
EH 430	THE AMERICAN NOVEL
EH 439	ETHNIC AMERICAN NOVEL
EH 435	SPECIAL STUDIES AMERICAN LIT
EH 440	SPECIAL TOPICS ENGLISH STUDIES (with a topic covering the novel)

Literature Elective

Select 3 semester hours from the courses listed above at the 300 level or above, as well as the following: 3

EH 403	LITERARY CRITICISM & THEORY
EH 406	FEMINISM AND COMPOSITION
EH 408	HISTORY OF ENGLISH LANGUAGE
EH 410	FICTION WRITING
EH 411	POETRY WRITING
EH 412	SPEC STUDIES CREATIVE WRITING
EH 415	ANGLOPHONE/POSTCOLONIAL LIT
EH 418	REP TEXTS-WOMEN WRITERS
EH 422	STUDIES IN THE NOVEL
EH 424	POETRY AND POETICS
EH 425	LITERATURE, SCIENCE & TECH
EH 434	SCIENCE FICTION
EH 448	THE BIBLE AS LITERATURE
EH 465	DRAMATIC LITERATURE

Speech and Communication

CM 113	Intro to Rhetorical Communication	3
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3

Drama and Theatre

TH 221	ACTING	3
TH 425	THEATRE MAINSTAGE	3

Media Writing

CM 205	INTRO TO JOURNALISM	3
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Mass Media

CM 430	MASS MEDIA IN AMERICA	3
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Education Courses

ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3

ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 421	SECNDRY ELA INSTR WRIT TO READ	2
ED 431	SEC ELA METHD: READING TO WRIT	2
ED 497	HIGH SCHOOL INTERNSHIP	12

First Year Experience

FYE 101A	CHARGER SUCCESS - ART,HUM,SOCs (First Year Experience)	1
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Year 1

Fall	Semester Hours
EH 101	3
CM 113	3
Mathematics	3
TH 221	3
FYE 101	1
Area V GER course	3

Term Semester Hours: 16

Spring

EH 102	3
Fine Arts class GER	3
HY 103 or 104	3
CM 231	3
Science	4

Term Semester Hours: 16

Year 2

Fall	
EH 207	3
Science	4
Social and Behavioral Science	3
CM 205	3
Area V GER course	3

Term Semester Hours: 16

Spring

EH 208	3
Social and Behavioral Science	3
CM 430	3
TH 425	3
Area V GER course	3

Term Semester Hours: 15

Year 3

Fall	
ED 301	
ED 307	3
ED 308	3
EDC 301	3
EDC 311	3
EH 300+ Literature elective	3

Term Semester Hours: 15

Spring

Area IV GER course	3
EH 305	3
EHL 405	3

ED 309	3
ED 350	3
Term Semester Hours:	15
Year 4	
Fall	
EH 400	3
EH 300+ American Literature	3
EH Novel course	3
Area V GER course	3
EH 300+ English Literature	3
Term Semester Hours:	15
Spring	
Area V GER course	3
Area V GER course	3
ED 410	3
ED 408	3
ED 431	2
ED 421	2
Term Semester Hours:	16
Fifth Year	
Fall	
ED 497	12
Term Semester Hours:	12
Total Semester Hours:	136

English Minor

A minor in English requires 21 semester hours above freshman composition courses; 12 semester hours must be upper level (numbered 300 or above), including at least 3 semester hours at the 400-level.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor
- Six semester hours of upper level credit must be taken at UAH

Requirements

Code	Title	Semester Hours
Sophomore literature		6
EH 207 or EH 209 or EH 242	READINGS LITERATURE/CULTURE I HONORS SEM READINGS LIT/CUL I MYTHOLOGY	
EH 208 or EH 210	READINGS LITERATURE/CULTURE 2 HONORS SEM READINGS LIT/CUL 2	
EH 305	INTRO TO LITERARY STUDIES	3
Courses numbered 300 or 400 ¹		6
Courses numbered 400		3
EH elective 200+ level ²		3
Total Semester Hours		21

¹ Courses in technical and business writing may not be used in the minor without special approval by the department chair.

² 100 level EH courses are not allowed to count in EH minor.

Creative Writing Minor

The Creative Writing Minor gives students an opportunity to develop their creative writing talents by participating in writing workshops and studying literary works.

- A minimum 2.0 GPA is required in the minor
- 25% of the minor must be earned at UAH
- Transfer students may only apply 6 credits from another institution toward the minor

Requirements

Code	Title	Semester Hours
EH 211	INTRO CREATIVE WRITING	3
EH 410	FICTION WRITING	3
EH 411	POETRY WRITING	3
EH 412	SPEC STUDIES CREATIVE WRITING	3
or EH 414	CREATIVE NONFICTION WRITING	
Literature Courses		9
9 hours of EH 300+ literature electives		
Total Semester Hours		21

Technical Writing Minor

The 22 credit hour minor prepares students for a career in technical writing by combining intensive writing training with practical experience and fundamental technical skills. All students must take EH 301, EH 302, EH 401, and EH 320 plus 9 hours of relevant electives. Students with non-technical majors (e.g., English, Communication Arts) should plan early to take courses in technical or scientific fields. Students with technical majors (e.g., Engineering, Physics, Computer Science) will take additional courses focusing on writing and communication skills.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor
- English majors are not allowed to share classes with the Technical Writing minor
- Technical Writing minors are not allowed to major in Writing with a Technical Writing concentration (other concentrations are approved, however).

Technical Writing Minor Requirements:

Code	Title	Semester Hours
EH 301	TECHNICAL WRITING	3
EH 302	TECHNICAL EDITING	4
EH 401	THEORY & PRACTICE IN TECH COMM	3
EH 320	PRACTICUM IN WRITING	3
Technical and Science Majors ¹		9
9 hours of Arts, Humanities, and Social Science Electives		
Arts, Humanities, & Social Science and Business Majors ¹		
9 hours of technical or science electives		
Total Semester Hours		22

¹ All technical electives must be chosen with and approved by the Director of the Technical Writing program.

Writing Minor

A minor in Writing requires 21 semester hours above freshman composition courses; In the electives area, 4-6 semester hours must be upper level (numbered 300 or above).

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor
- 6 semester hours at the 300+ level must be earned at UAH

Code	Title	Semester Hours
Required		9
EH 260	INTRO TO WRITING MAJOR	
EH 340	ACADEMIC WRITING	
CM 408	CLASSICAL RHET THEORY	
or CM 409	CONTEMPORARY RHETORICAL THEORY	
EH 463	CAPSTONE IN WRITING	
Electives		12-13
Choose four courses (4-6 hours at 300-level or above. Students may choose electives to focus on a particular type of writing, though this is not required. Students who take EH 302: Technical Editing (4 crs) can meet the 4-hour minimum 300-level requirement; all others should take at least 6 hours at the 300-level or above)		
CM 113	Intro to Rhetorical Communication	
CM 205	INTRO TO JOURNALISM	
CM 220	INTRO PUBLIC RELATIONS	
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	
CM 310	PERSUASION	
CM 375	RHETORICAL CRITICISM	
CM 405	ADVANCED MEDIA WRITING	
CM 408	CLASSICAL RHET THEORY	
CM 409	CONTEMPORARY RHETORICAL THEORY	
CM 420	PUBLIC RELATIONS WRITING	
CM 430	MASS MEDIA IN AMERICA	
CM 440	PUBLIC RELATIONS CAMPAIGN	
CM 444	ADVERTISING	
EH 211	INTRO CREATIVE WRITING	
EH 300	STRATEGIES FOR BUSINESS WRIT'G	
EH 301	TECHNICAL WRITING	
EH 302	TECHNICAL EDITING	
EH 303	PRAC & RSRCH IN TECH COMM	
EH 400	COMPOSITION STUDIES FOR TCHERS	
EH 401	THEORY & PRACTICE IN TECH COMM	
EH 403	LITERARY CRITICISM & THEORY	
EH 410	FICTION WRITING	
EH 411	POETRY WRITING	
EH 412	SPEC STUDIES CREATIVE WRITING	
EH 413	CHILDREN'S & ADOLESCENT LIT	
EH 414	CREATIVE NONFICTION WRITING	
TH 260	VIDEO PRODUCTION	
ESL 410	INTRO TO LANGUAGE SYSTEMS	
ESL 420	INSTR & ACADMC LANG CNTNT DOMN	
Total Semester Hours		21-22

Global Studies

Global Studies Program

Office: MOR 278P

Telephone: 256.824.6288

Global Studies Minor

The **Global Studies Minor** provides students a multi- and interdisciplinary minor that helps them prepare for global-oriented careers in business, government, non-governmental organizations, international development organizations, and philanthropic agencies.

For information about the **Certificate in Foreign Language and Global Engagement** or the **Global Professional Pathways Certificate**, please go to the **Department of World Languages and Cultures**.

Mission

The Global Studies Program fosters an interdisciplinary environment of investigation of global issues that enables students to discover, create, and communicate knowledge, develop critical thinking and intercultural competencies, and cultivate civic responsibility in preparation for opportunities in a wide array of globally-oriented fields.

Coursework in Global Studies includes two core courses in Global Studies (GS 200, "Global Systems and Cultures," and GS 400, "Capstone and Portfolio Course in Global Studies"), and 18 credits based on courses from five "Core Competencies" that each correspond to a learning outcome for the minor.

- **Core Competency: Foreign Language** (6 credits)
 - Learning Outcome: Students will obtain a solid foundation in a foreign language and be ready to proceed to intermediate competency. Student will complete two courses in one foreign language.
- **Core Competency: Global Economics, Markets, and Development** (3 credits):
 - Learning Outcome: Students will acquire a foundational literacy in economics and economic development.
- **Core Competency: Global Politics and Security** (3 credits):
 - Learning Outcome: Students will examine and reflect on the complexities involved in global politics and security.
- **Core Competency: Global Environment, Technology, and Health** (3 credits):
 - Learning Outcome: Students will explore the impact of the global processes of business, industry, and technological developments on the environment and public health.
- **Core Competency: Cultures in Exchange and Contact** (3 credits):
 - Learning Outcome: Students will investigate the challenges and opportunities in a world of continual migration and interaction of cultures, ideas, and ways of life.

Please click on the minor tab above to see which courses are eligible for satisfying the core competencies.

The minor must include a minimum of 24 hours:

- At least nine hours must be in courses numbered 300 or above.
- Up to six hours may also count toward major program.
- Up to six hours may count toward GERs.
- 25% of the minor must be earned at UAH.
- A minimum 2.0 GPA is required in the minor.

Global Studies Core:

Code	Title	Semester Hours
Core Coursework		6
GS 200	GLOBAL SYSTEMS AND CULTURES	
GS 400	GLOBAL STUDIES CAPSTONE ¹	

Foreign Language and Thematic Core:

Code	Title	Semester Hours
Foreign Languages		6
Choose from: WLC 101, 102, 201, 202, 301, 302, 303, 304, 305, or 404		

The 6 Hours of foreign language must be taken in the same language

Thematic Core Competencies

12

Students must select one course from three of the four thematic core competencies listed below. The fourth class may be from any category.

Global Economics, Markets, and Development

Students will acquire a foundational literacy in economics and economic development. Choose one course:

ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
MGT 450	INTERNATIONAL BUSINESS
ECN 454	INTERNATIONAL ECONOMICS
FIN 454	INTERNATIONAL FINANCE

OR course approved by Global Studies Program Director

Global Politics and Security

Students will examine and reflect on the complexities involved in global politics and security. Choose one course:

HY 440	FOREIGN REL U.S. SINCE 1920
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PSC 440	REGIONAL STUDIES
PSC 464	AMERICAN FOREIGN POLICY
PSC 466	NATL SECURITY STRATEGY & PLCY
PSC 470	ISSUES IN SECURITY POLICY

OR course approved by Global Studies Program Director

Global Environment, Technology, and Health

Students will explore the impact of the global processes of business, industry, and technological developments on the environment and public health. Choose one course:

AES 210	COLLAPSE OF CIVILIZATIONS
AES 407	ENV THRTS, PUB POLY, & DEC MKG
SOC 369	ENVIRONMENTAL SOCIOLOGY
HY 383	FOOD AND WORLD HISTORY
PHL 150	TECH, SCIENCE & HUMAN VALUES

OR course approved by Global Studies Program Director

Cultures in Exchange and Contact

Students will investigate the challenges and opportunities in a world of continual migration and interaction of cultures, ideas, and ways of life.

Choose one course:

ARH 103	ARH SUR: WORLD ART
EH 208	READINGS LITERATURE/CULTURE 2
EH 415	ANGLOPHONE/POSTCOLONIAL LIT
WLC 204	INTERNATIONAL CINEMA
AES 105	WORLD REGIONAL GEOGRAPHY
HY 382	MODERN LATIN AMERICAN
HY 385	MODERN MIDDLE EAST
HY 424	THE ATLANTIC WORLD
HY 481	EMPIRES AND NATIONS
HY 482	COMPTV SLAVERY & ABOLITION
PHL 314	ASIAN PHILOSOPHY
SOC 330	RACE AND ETHNICITY

OR course approved by Global Studies Program Director

Total Hours Required

24

¹ To be taken in last year of program

The **Global Studies Program** features on-campus courses associated with the **Global Studies Minor** (GS 200 and GS 400), the **Certificate in Foreign Language and Global Engagement** (GS 200), the **Global Professional Pathways Certificate** (GS 450), as well as credit options (GS 199,

GS 299, and GS 399) for courses completed abroad. Students may also receive credit for GS 499 for a course completed abroad or as an independent study on campus.

GS 199 - STUDY ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 200 - GLOBAL SYSTEMS AND CULTURES

Semester Hours: 3

A multidisciplinary introduction to global studies through a focus on cultural, economic, political, and historical dimensions of interactions among world nations and cultures.

GS 299 - ST: GLOBAL STUDIES ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 399 - STUDY ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 400 - GLOBAL STUDIES CAPSTONE

Semester Hours: 3

Capstone independent study for students completing the Global Studies minor. Students complete a portfolio essay assignment and essays connected to the program's core competencies. Prerequisite: GS 200, its equivalent, or approval of instructor. Offered as needed as independent study to students in final semester of study.

GS 450 - GLOBAL PROFESSIONAL PORTFOLIO

Semester Hour: 1

This course serves as the capstone learning experience for students completing the Global Professional Pathways Certificate program. Students will complete the Global Professional Pathways Portfolio in which they reflect on and assess their foreign language study and experience abroad and how these learning experiences have helped them prepare for a global career in their field.

GS 499 - SELECTED TOPICS IN GLOBAL STU

Semester Hours: 1-3

Selected topics in Global Studies. Course may also take place abroad as part of a study abroad program. May be repeated for credit with permission of Global Studies Program director.

History

Morton Hall 206

Telephone: 256.824.6310

Email: history@uah.edu

The Department of History offers the following undergraduate degrees:

- History, BA (p. 134)
- History, BA Secondary Education (p. 139)
- History and Social Sciences, BA Secondary (p. 142)

Mission

The History Department faculty are committed to our students and teaching excellence. We offer a wide-range of classes that foster student growth and accommodate diverse student interests. Every course entails reading, discussion, and writing to build skills in investigating problems, analyzing information, and crafting narratives. Our goals are to help students understand continuity and change and become better citizens who know national patterns and cosmopolitan perspectives. Students doing history will become skillful in research, separating important information from the inconsequential, weighing disparate interpretations, identifying and explaining trends, discussing complex topics, and presenting information clearly orally and in writing.

The History Department offers an undergraduate B.A., as well as a minor. The department's majors who complete Class A&B certificates in education meet all the requirements of Alabama teacher certification. We also offer courses supporting various interdisciplinary minors within the College of Arts, Humanities, and Social Sciences; for example, in Women, Gender, and Sexuality (p. 236); Public History (p. 146); and Latin American Studies (p. 259).

History for Second Area of Study for Elementary Education Teacher Candidates

Students majoring in elementary education may select history as their second area of study. Requirements can be found in the Education section of the catalog. Preliminary counseling is available in the College of Education.

Advanced Placement Credit

Elective credit will be given to AP American History, European History, and/or World History. Students who have earned a score of 3 on Advanced Placement (AP) Program examinations of the College Entrance Examination Board will receive credit for HY 221, while a score of 4 or 5 will receive credit for HY 221 and HY 222 at UAH. For AP European History, students submitting a score of 3 will receive credit for HY 103, while a score of 4 or 5 will earn credit for HY 103 and HY 104. In World History, a score of 3 on the AP exam will receive credit for HY 103 and students submitting a score of 4 or 5 will receive credit for HY 103 and HY 104.

Transfer Credit

With the exception of those community colleges covered within the Alabama Articulation and General Studies agreement, only in exceptional circumstances will the History Department accept transfer credit for non-interactive telecommunications courses or correspondence courses in HY 103, HY 104, HY 221, or HY 222. Students who wish to receive such credit should petition the department chair.

CLEP/Departmental Examination Credit

A student who earns an acceptable score on the CLEP examination for World History (HY 103 and/or HY 104), or U.S. History (HY 221 and/or HY 222) may petition the History Department requesting an essay examination on the subject for which credit is desired. Acceptable scores on the CLEP examination are 56 for HY 103 and HY 104, and 60 for HY 221 and HY 222. The petition will not be reviewed until a satisfactory CLEP score has been reported. After consultation with a faculty member designated by the department chair, the student may take an essay examination. If he or she also receives B or better on the essay, credit will be granted for the appropriate course(s).

Major in History

- History, BA (p. 134)
- History, BA Secondary Education (p. 139)
- History and Social Sciences, BA Secondary (p. 142)

Minor in History

- History (p. 146)
- Public History (p. 146)

HY 103 - WORLD HISTORY TO 1500

Semester Hours: 3

Explore the historical development of peoples and cultures from their beginnings to 1500. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas and Oceania.

HY 104 - WORLD HISTORY SINCE 1500

Semester Hours: 3

Explore global interdependence from the period of transoceanic exploration to the present. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas, and Oceania.

HY 221 - UNITED STATES TO 1877

Semester Hours: 3

Discovery of America through the Civil War and Reconstruction.

HY 222 - UNITED STATES SINCE 1877

Semester Hours: 3

United States from the end of the Civil War era to the present.

HY 300 - CRAFT OF HISTORY

Semester Hours: 3

Introduction to historical methods and thought, designed to prepare history majors for upper-level coursework. Required of all history majors, including transfer students. Open to non-history majors. Prerequisites: HY 103 and HY 104.

HY 306 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

This course will investigate why some cultures succeed and others fail.

HY 310 - INTRODUCTION TO PUBLIC HISTORY

Semester Hours: 3

Introduces the interdisciplinary field of public history, including historic preservation, cultural resource management, local and state history, methodology, historical archaeology, museum studies, oral history, and archival management through academic training and practical experience.

HY 311 - HISTORIC ARCHAEOLOGY

Semester Hours: 3

Introduces intellectual and practical concepts using elements of research, fieldwork, analysis, and interpretation to explore and recreate the documented and undocumented past.

HY 312 - CULTURAL RESOURCE MANAGEMENT

Semester Hours: 3

Cultural resource management encompasses recognition description, maintenance, security, and overall management of historical items, places, and ideas through preservation and protection.

HY 325 - HISTORY OF ALABAMA

Semester Hours: 3

The state's past from colonial times to the present with emphasis on its place in United States history.

HY 329 - IMPERIAL ROME

Semester Hours: 3

Roman Empire from the Principate to the barbarian invasions.

HY 331 - WORLD OF MIDDLE AGES

Semester Hours: 3

Survey of the origins and development of medieval society in Europe from the fall of Rome to the Age of Discovery, including the Latin West, Byzantium, and Islamic world.

HY 360 - AMERICAN HISTORY THROUGH FILM

Semester Hours: 3

This course will explore how motion pictures have shaped our views on American history and how the past has shaped movie making.

HY 367 - WOMEN IN U.S. HISTORY

Semester Hours: 3

Women in the United States from the colonial period to the present.

HY 368 - AMERICAN ENVIRONMENTAL HISTORY

Semester Hours: 3

Explores the interrelationship of people and the environment in American history from 1500 to the present.

HY 370 - TECHNOLOGY IN AMERICAN HISTORY

Semester Hours: 3

Explores the history of the interrelationship of people and technology in American history from 1600 to the present.

HY 371 - US MILITARY HY FRM INDP TO PRS

Semester Hours: 3

Explores the evolution of the U.S. military from the War of Independence to the present.

HY 373 - FOREIGN REL US TO 1920

Semester Hours: 3

American foreign relations from the Revolutionary era through World War I. American territorial and commercial expansion, imperialism, and emergence as a world power.

HY 381 - COLONIAL LATIN AMERICA

Semester Hours: 3

This course surveys the history of Colonial Latin America from the Hispanic period to the wars of independence in the nineteenth century.

HY 382 - MODERN LATIN AMERICAN

Semester Hours: 3

This course surveys the history of Latin America from the nineteenth century to the present.

HY 383 - FOOD AND WORLD HISTORY

Semester Hours: 3

Examines the role of food and drink in various historical settings.

HY 384 - ISLAMIC WORLD TO 1800

Semester Hours: 3

This course explores how Islam emerged as a civilization and connected geographic areas across the globe. Topics include: the prophet Muhammad; early Arab conquests; the Sunni-Shiite split; the expansion of the Islamic world into Europe, Africa, and Asia; and the challenge of European imperialism.

HY 385 - MODERN MIDDLE EAST

Semester Hours: 3

This course seeks to establish a historical basis for understanding the current events of the modern Middle East (1800-present). Topics include: the making of the modern Middle East both before and after WWI; the Arab-Israeli conflict; and the relationship between the U.S. and the Middle East.

HY 390 - GENDER & SEXUALITY MODERN EURO

Semester Hours: 3

Explores the history of gender and sexuality in Europe from the Enlightenment to the present.

HY 391 - EUROPE, 1500-1815

Semester Hours: 3

Examination of the economic, scientific, social, political, and cultural developments in Europe from the Renaissance to the French Revolution.

HY 392 - EUROPE SINCE 1815

Semester Hours: 3

Europe from the French Revolution to the present.

HY 399 - SPECIAL TOPIC IN HISTORY

Semester Hours: 3

Intensive examination of particular problems, periods, or topics in history.

HY 401 - DAILY LIFE IN ANCIENT ROME

Semester Hours: 3

This course will re-create the daily lives of the ancient Romans using secondary readings, ancient literature, archaeology, and film. It focuses on the lives of ordinary people, with an eye to their struggles, everyday practices, beliefs, values, and mentalities.

HY 410 - SPEC TOPICS IN PUBLIC HISTORY

Semester Hours: 3

Intensive examination of a particular problem, aspect, or methodology in public history.

HY 413 - THE OLD SOUTH

Semester Hours: 3

Southern society, economics, politics and culture concentrating on the nineteenth century South through Reconstruction.

HY 414 - THE NEW SOUTH

Semester Hours: 3

Post-Reconstruction South emphasizing the economic, social, and political readjustments made during the twentieth century. Open to students who have completed 12 semester hours in history or senior standing or have permission of instructor.

HY 424 - THE ATLANTIC WORLD

Semester Hours: 3

Examines interactions across the Atlantic Ocean among Africans, Americans, and Europeans. This course meets the requirements for either American or non-American credit in the history major.

HY 426 - COLONIAL AMERICA

Semester Hours: 3

Explores the founding of New World colonies, including political, social, economic, and religious developments during the colonial period.

HY 427 - AGE OF AMERICAN REVOLUTI

Semester Hours: 3

Explores the multinational connections and conflicts that lead some English colonists to revolt. Considers the political, social, and economic aspects of the time period.

HY 428 - EARLY AMERICAN REPUBLIC

Semester Hours: 3

Political, social, and economic changes between the American Revolution and the nineteenth century that laid the foundation for the United States.

HY 429 - CIVIL WAR & RECONSTRUCTION

Semester Hours: 3

An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction eras.

HY 437 - THE RISE OF MODERN AMER

Semester Hours: 3

Economic and social changes, imperialism, and the growth in government in the United States from 1877 to the 1920s.

HY 438 - MODERN AMERICA

Semester Hours: 3

American society, politics, economics, and foreign affairs from the end of World War I to the origins of the Cold War.

HY 439 - RECENT AMERICAN HISTORY

Semester Hours: 3

Contemporary America from the 1950s to the present, analyzing both domestic and foreign affairs.

HY 440 - FOREIGN REL U.S. SINCE 1920

Semester Hours: 3

United States as a world power. American involvement in World War II, Vietnam, and the Cold War, and the growth of American presence in Asia, Latin America, and the Middle East.

HY 445 - COMPTVE MILITARY PLCY & STRAT

Semester Hours: 3

A comparative analysis of the military policy and strategy of states and empires in World History.

HY 451 - SCIENCE & RELIGION IN HISTORY

Semester Hours: 3

Integrated survey of the history of science and religion in mostly Western contexts from Greek. Antiquity to present debates. Prerequisites: HY 300.

HY 472 - US MILITARY HISTORY SINCE 1920

Semester Hours: 3

The evolution of United States armed forces from 1920 to the present. The class will enhance understanding of the development and evolution of American strategy, doctrine, and operational issues.

HY 473 - U.S.-LATIN AMERICAN RELATIONS

Semester Hours: 3

This class focuses on the history of political, economic, and cultural interactions between Latin America and the United States from 1800 to the present. Topics include military intervention, trade, cultural exchanges, the Cold War, the drug war, and immigration.

HY 474 - RENAISSANCE & REFORMATION

Semester Hours: 3

Selected topics in the Italian Renaissance and European Reformation.

HY 475 - SECTARIANISM ISLAMIC WORLD

Semester Hours: 3

This course focuses on sectarianism, the practice and rhetoric surrounding marginalization of certain social-religious groups in the Islamic world. It explores the historical foundations of sectarianism (from early 7th century to today) both within the Islamic world and across the globe.

HY 476 - BEING YOUNG MODERN MIDDLE EAST

Semester Hours: 3

This course focuses on the lives of young men and women of the Modern Middle East. It explores how children and youth experienced historical phenomena in the region, the ways in which these experiences affected the foundations of their adulthood, and how their actions shaped historical events.

HY 480 - ROMANS&BARBARIANS LATE ANTIQTY

Semester Hours: 3

This course explores the dynamic world of Late Antiquity including political developments, social and religious transformation, and exchange patterns in the Mediterranean. It is a history of cultural interaction, continuity, and change during a formative period in western civilization.

HY 481 - EMPIRES AND NATIONS

Semester Hours: 3

Thematic focus on empires and nations as political and cultural constructs in European and world history. Students may take HY 481 more than once for credit ONLY IF 1) a different instructor teaches each offering, and 2) the temporal and/or geographic focus is distinct each time.

HY 482 - COMPTV SLAVERY & ABOLITION

Semester Hours: 3

Explore what slavery has meant in the ancient world, Indian Ocean, Africa, the United States, and/or other locations over time.

HY 483 - GENDER & SEXUALITY LATIN AM

Semester Hours: 3

Studies the history of women, gender and sexuality in Latin America from the colonial period to the present.

HY 484 - LATIN AMERICAN HIST THRU FILM

Semester Hours: 3

Latin American history through the perspective of fictional films.

HY 485 - NAZI GERMANY AND THE HOLOCAUST

Semester Hours: 3

Seminar course on the historiography of Nazi Germany and the Holocaust.

HY 486 - COMMUNISM LEGCY RUSSIA EAST EU

Semester Hours: 3

Overview and analysis of communist states and post-communist legacies in Russia and Eastern Europe.

HY 490 - RESEARCH SEMINAR IN HY

Semester Hours: 3

Research and writing with primary sources and historiography. Required of all history majors. Prerequisites: HY 300 and 6 hours in History at the 300 or 400 level, or instructor's permission. Students should take HY 490 as late in their academic career as possible.

HY 492 - PUB MEMORY & INTERP

Semester Hours: 3

Examines how public memory is created by looking at the social, political, and economic forces that shape public history and considers how historical knowledge is conveyed to the public. Prerequisites: 6 hours in History or Instructor's Permission.

HY 493 - FUNDAMENTALS OF ARCHIVES

Semester Hours: 3

Survey of basic archival theory and practice, with emphasis on the role of the archivist in contemporary society.

HY 494 - DEVELOPING DIGITAL ARCHIVES

Semester Hours: 3

Survey of the theory and practice of developing digital access tools in archives, libraries, and museums.

HY 495 - PUBLIC HISTORY INTERNSHIP

Semester Hours: 3

A semester-long public history internship for completing a significant project using historical skills as a professional usually in an off-campus setting. Students must complete 125 hours of work during their internship. Permission of instructor or chair is required.

HY 498 - STUDIES IN HISTORY

Semester Hours: 1-3

A readings or research class on a particular problem, period or topic in history. This course may be repeated for credit.

HY 499 - INDEPENDENT STUDY

Semester Hours: 3

In exceptional circumstances, a student and professor may work together on a specialized topic.

History, BA

- History, BA requires 120 total credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Students must have a 2.0 GPA in the major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the CAHS Academic Advising office.
- In the History major, students must take 6 semester hours in US history beyond HY 221 and HY 222.
- In the History major, students must take 6 semester hours in Non-US History beyond HY 103 and HY 104.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	

EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts 3-6

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences 11-12

Mathematics 3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS

MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	

SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
Choose one from WLC 101, 102, 201, or 202		
HY 221 and HY 222 will share with the History major and the Pre-Professional area. These classes may not also count in Area IV listed above. The hours only count once towards overall credit hours.		
Pre-professional Electives: Choose 10 additional hours from Areas II, III, and IV listed above.		
History Major Requirements ¹		30
HY 221	UNITED STATES TO 1877	3
HY 222	UNITED STATES SINCE 1877	3
HY 300	CRAFT OF HISTORY ²	3
HY 490	RESEARCH SEMINAR IN HY ³	3
US History 300+ 6 semester hours		6
Non US History 300+ 6 semester hours		6
HY Electives 300+ 6 semester hours		6
Minor Courses		18+
Elective Courses		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

¹ Students must take three History courses (9 semester hours) at the 400 level within the HY major.

No more than two classes from the following count toward the major: HY 310, HY 311, HY 312, HY 410, HY 492, HY 493, HY 494, or HY 495.

² Students should take HY 300 in their Sophomore year or, for transfer students, in their first semester at UAH.

³ Students should take HY 490 in their Senior year.

Additional Information

A history major can pursue related programs to develop depth and breadth in history and related areas. Advising is available in the History Department for programs of study in the following:

- general
- secondary school teaching
- graduate school preparation
- pre-professional and pre-law preparation
- international studies
- public history
- and more

Students initiate the POS by meeting with the CAHS Academic Advisors and following up with a faculty advisor in the department to review it. Note, that while a POS is a contract and maps out the selection of courses that a student needs to progress toward a degree, he or she can always change majors and/or minors, and even colleges, at any point.

Year 1

Fall		Semester Hours
HY 103	WORLD HISTORY TO 1500	3
EH 101	COLLEGE WRITING I	3
Math		3
Fine Arts		3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		

HY 104	WORLD HISTORY SINCE 1500	3
EH 102	COLLEGE WRITING II	3
Humanities		3
Science w/Lab		4
Social/Behavioral Science		3
Term Semester Hours:		16
Year 2		
Fall		
HY 221	UNITED STATES TO 1877	3
HY 300	CRAFT OF HISTORY	3
WLC 101		3
Science w/Lab		4
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
Term Semester Hours:		16
Spring		
HY 222	UNITED STATES SINCE 1877	3
Literature or Humanities		3
Social/Behavioral Science		3
Area V Course		6
Term Semester Hours:		15
Year 3		
Fall		
HY 300+		3
HY 300+		3
Elective		3
Area V Course		3
Minor Course		3
Term Semester Hours:		15
Spring		
HY 300+		3
HY 300+		3
Area V Course		3
Minor Courses		6
Term Semester Hours:		15
Year 4		
Fall		
HY 300+		3
HY 300+		3
Elective		3
Minor Course		6
Term Semester Hours:		15
Spring		
HY 490	RESEARCH SEMINAR IN HY	3
Elective		6
Minor Courses		6
Term Semester Hours:		15
Total Semester Hours:		120

History, BA Secondary Education

- History, BA Secondary Education requires 128 credit hours.
- 39 of 128 credit hours must be taken at 300 level or higher.
- Students must have a 2.5 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 64 credit hours from a two-year school can be applied toward a UAH degree.
- 3 semester hours in US history beyond HY 221 and HY 222 and HY 325 are required in the HY major.
- 6 semester hours in Non-US History beyond HY 103 and HY 104 are required in the HY major.
- Any double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH	

or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences **11-12**
Mathematics **3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab) **8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		23

HY 221 and HY 222 will count in Pre-Professional area and the HY major. They may not also count in Area IV of the GER. The hours only count once towards overall credit hours.

Pre-professional electives: Choose 17 hours from the following categories above: Literature, Humanities, Fine Arts, Social and Behavioral Sciences, Mathematics and Lab Science.

History Major Requirements ¹		33
HY 221	UNITED STATES TO 1877	3
HY 222	UNITED STATES SINCE 1877	3
HY 300	CRAFT OF HISTORY ²	3
HY 325	HISTORY OF ALABAMA	3
HY 490	RESEARCH SEMINAR IN HY ³	3
US History 300+ 3 semester hours		3
Non US History 300+ 6 semester hours		6

HY Electives 300+ 6 semester hours	6
3 Hours HY elective, at the 200+ level	3

- ¹ Students must take three History courses (9 semester hours) at the 400+ level.
No more than two classes from the following count toward the major: HY 310, HY 311, HY 312, HY 410, HY 492, HY 493, HY 494, or HY 495.
- ² Students should take HY 300 in their Sophomore year or, for transfer students, in their first semester at UAH.
- ³ Students should take HY 490 in their Senior year.

Code	Title	Semester Hours
Education Requirements		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 424	TCHNG SOC STUD MID & SEC SCH I	3
ED 497	HIGH SCHOOL INTERNSHIP	12
Total Semester Hours		128

Additional Information

A history major can pursue related programs to develop depth and breadth in history and related areas. Advising is available in the History Department for programs of study in the following. Counseling is available in the History Department for programs of study in the following:

- general
- secondary school teaching
- graduate school preparation
- pre-professional and pre-law preparation
- international studies
- public history
- and more

Students are advised to declare a major and minor and obtain a Program of Study (POS) by meeting with the College of Arts, Humanities, and Social Sciences Academic Advisors and following up with a faculty advisor in the department to review it. Note, that while a POS is a contract and maps out the selection of courses that a student needs to progress toward a degree, he or she can always change majors and/or minors, and even colleges, at any point.

History and Social Science Secondary Education, BA

- History and Social Science, BA Secondary Education requires 129 credit hours.
- 39 of 129 credit hours must be taken at 300 level or higher.
- Must have a 2.5 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 64 credit hours from a two-year school can be applied toward a UAH degree.
- 3 semester hours in US history beyond HY 221 and HY 222 and HY 325 are required in the History major.
- 6 semester hours in Non-US History beyond HY 103 and HY 104 are required in the History major.
- Any double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F or WLC 202G	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN	

or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences 11-12

Mathematics 3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab) 8

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences***12**

History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional		23
These pre-professional courses will count in Area V and are shared with the major. The hours only count once towards overall credit hours and are not allowed to also count in the GER above: HY 221, HY 222, SOC 100, ESS 110, ECN 142, ECN 143, PSC 101, and ESS 105. Teacher certification also requires PY 101, PY 201 and CM 113 but these may be counted in the appropriate areas above.		
History Major Requirements ¹		66
HY 221	UNITED STATES TO 1877	3
HY 222	UNITED STATES SINCE 1877	3
HY 300	CRAFT OF HISTORY ²	3
HY 325	HISTORY OF ALABAMA	3
HY 490	RESEARCH SEMINAR IN HY ³	3
US History 300+ 3 semester hours		3
Non US History 300+ 6 semester hours		6
HY Electives 300+ 6 semester hours		6
3 Hours HY elective, at the 200+ level		3

¹ Students should take three history courses (9 semester hours) at the 400+ level in the major.

No more than two classes from the following count toward the major: HY 310, HY 311, HY 312, HY 410, HY 492, HY 493, HY 494, or HY 495.

² Students should take HY 300 in their Sophomore year or, for transfer students, in their first semester at UAH.

³ Students should take HY 490 in their Senior year.

Code	Title	Semester Hours
Social Science		
AES 105	WORLD REGIONAL GEOGRAPHY	3
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	3
ECN 142	PRINC OF MACROECONOMICS	3
ECN 143	PRINC OF MICROECONOMICS	3
PSC 101	INTRO TO AMERICAN GOVERNMENT	3
PSC 102	INTRO TO COMPARATIVE POLITICS	3

PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	3
PY 101	GENERAL PSYCHOLOGY I	3
PY 375	SOCIAL PSYCHOLOGY	3
SOC 100	INTRO TO SOCIOLOGY	3
Education Courses		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 424	TCHNG SOC STUD MID & SEC SCH I	3
ED 497	HIGH SCHOOL INTERNSHIP	12
Total Semester Hous		129

History Minor

A history minor must take a minimum of 21 semester hours of history.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Code	Title	Semester Hours
6 Hours HY Sequence: choose one sequence from below		6
HY 103 & HY 104	WORLD HISTORY TO 1500 and WORLD HISTORY SINCE 1500	
HY 221 & HY 222	UNITED STATES TO 1877 and UNITED STATES SINCE 1877	
3 semester hours HY 200+ level		3
12 semester hours HY 300+ level		12
Total Hours		21

Public History Minor

The UAH Public History program is an interdisciplinary minor designed for students who want to pursue public history jobs in historic preservation, museums, historic houses or historic sites, archives, libraries, art galleries, local historical museums, or in local or state government.

Interested students should contact the History Department chair to develop a plan of study that selects electives supporting your professional goals.

No History/History Education major is permitted to do a Public History minor.

Public History Minor requires a minimum of 21 semester hours, at least 12 semester hours at 300 level or above and must be taken at UAH. No more than one 100-level class may count toward the minor.

Code	Title	Semester Hours
Public History Electives		6
select 6 hours of the following:		
HY 310	INTRODUCTION TO PUBLIC HISTORY (select 6 hours of the following:)	
HY 311	HISTORIC ARCHAEOLOGY	
HY 312	CULTURAL RESOURCE MANAGEMENT	

HY 410	SPEC TOPICS IN PUBLIC HISTORY	
HY 492	PUB MEMORY & INTERP	
HY 493	FUNDAMENTALS OF ARCHIVES	
HY 494	DEVELOPING DIGITAL ARCHIVES	
HY 498	STUDIES IN HISTORY	
Interdisciplinary Electives		6
select 6 semester hours of the following:		
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 322	ANIMATION: 3D ANIMATION	
CM 113	Intro to Rhetorical Communication	
CM 205	INTRO TO JOURNALISM	
CM 251	DECISION-MAKING IN SMALL GROUP	
CM 313	BUSINESS & PROFESSIONAL COMM	
CM 405	ADVANCED MEDIA WRITING	
CM 430	MASS MEDIA IN AMERICA	
CM 444	ADVERTISING	
EH 300	STRATEGIES FOR BUSINESS WRIT'G	
EH 301	TECHNICAL WRITING	
EH 302	TECHNICAL EDITING	
MKT 301	PRINCIPLES OF MARKETING	
TH 360	VIDEO PRODUCTION II	
Historical-Cultural Electives		6
select 6 semester hours from these recommended departments: ARH, HY, SOC, PSC		
Internship		3
select one of the following:		
HY 495	PUBLIC HISTORY INTERNSHIP	
ARS 492	ART INTERNSHIP	
Total Semester Hours		21

Music

Roberts Hall B102
 Telephone: 256.824.6436
 Email: music@uah.edu

The University of Alabama in Huntsville is an accredited institutional member of the National Association of Schools of Music.

Students are advised to officially declare a major and to obtain a Program of Study by the beginning of the sophomore year, if not before. Students may initiate the Program of Study by meeting with the College of Arts, Humanities, and Social Sciences Academic Advisor.

Degrees offered:

Music, BA

Students wishing to pursue a major in music should have **pre-college training in their principal performing instrument or voice and have ability to read music fluently**. Basic keyboard ability is helpful but not mandatory.

Entering freshmen and transferring students are required to take a placement examination in rudiments (scales, keys, intervals, triads, general notation), music reading, and performance (principal instrument or voice). Deficiencies may be removed through remedial instruction.

The University of Alabama in Huntsville offers a Bachelor of Arts in Music with several different emphases. Students choose one (or more) of these emphases:

- Liberal Arts Emphasis (p. 152)
- Performance Emphasis (p. 157)
- Jazz Emphasis (p. 160)
- Music Technology Emphasis (p. 164)

- Music Business Emphasis (p. 168)
- Church Music Emphasis (p. 172)
- Piano Pedagogy Emphasis (p. 175)
- Music Education Emphasis (p. 179)

Entry Requirements for Music Majors and Minors

Admission to the University of Alabama in Huntsville does not guarantee admission to the UAH Department of Music. Auditions are required for all applicants majoring or minoring in music. The audition is one of the most important factors in the admission process. It will determine admission to the Department of Music as well as eligibility for a music scholarship. Those who have not auditioned and been accepted as music majors may not take studio instruction at the 200-level.

Virtual and in-person audition opportunities are available. For audition dates, please consult the audition application or visit the Department of Music website at www.uah.edu/music (<http://www.uah.edu/music/>).

Majors in Music

- Music, BA - Liberal Arts Emphasis (p. 152)
- Music, BA - Performance Emphasis (p. 157)
- Music, BA - Jazz Emphasis (p. 160)
- Music, BA - Music Technology Emphasis (p. 164)
- Music, BA - Music Business Emphasis (p. 168)
- Music, BA - Church Music Emphasis (p. 172)
- Music, BA - Piano Pedagogy Emphasis (p. 175)
- Music, BA - Music Education Emphasis (p. 179)

Minors in Music

- Film and Media Arts (p. 184)
- Music (p. 185)
- Music, Stage, and Screen (p. 185)
- Music Technology (p. 186)

MU 100 - INTRO TO MUSIC LITERATURE

Semester Hours: 3

This course is designed as a cultural and historical overview with the purpose of developing a greater appreciation and understanding of art music. Course content will include exploration of musicians, ideas, and issues in various types of western and non-western music, through reading, listening, and discussion. No prerequisite is required. Offered every semester.

MU 102 - INTRODUCTION TO WORLD MUSIC

Semester Hours: 3

Exploration of ideas and issues in various types of non-Western music through reading, listening, and discussion. Includes optional travel abroad. Offered summer semesters only.

MU 106 - INTRO TO MUSIC TECHNOLOGY

Semester Hour: 1

Introduction to Music Technology provides students with an overview of the technical and scientific aspects of music such as: acoustics, music psychology/sociology, and modern electronics. There will be particular emphasis on the use of electronic devices, MIDI and computer software to facilitate recording, playback, composition, storage, performance and analysis. Offered Fall and Spring semesters only.

MU 108 - INTRODUCTION TO MUSIC THEORY

Semester Hours: 3

Music fundamentals presented in a practical way for students who have no musical training as well as for majors/minors with limited theory knowledge. Mechanical aspects of clefs, notation, scales, intervals, chords, and rhythm with some aural skills, and practice in writing and harmonizing melodies. For students who expect to major or minor in music, this course may not be taken for degree credit. Offered Summer and Fall semesters only.

MU 110 - INTRO ARTS MANAGEMENT

Semester Hours: 3

Designed to explore arts management and administration, focusing primarily on non-profit considerations, but also addressing commercial activities in the arts.

MU 120 - BEGINNING CLASS VOICE

Semester Hour: 1

This course is designed to aid beginning singers in learning the fundamentals of solo singing.

MU 130 - PIANO CLASS

Semester Hour: 1

Techniques of performance, note reading, and basic musicianship.

MU 131 - PIANO CLASS II

Semester Hour: 1

MU 140 - BEGINNING GUITAR CLASS

Semester Hour: 1

The course objective is to provide basic guitar instruction for students who have had little or no experience playing the guitar. The course will cover note reading, posture, chords, strumming patterns, simple arpeggios, scales, and simple to intermediate solo playing.

MU 199 - MUSIC FORUM

Semester Hours: 0

Concert attendance is an indispensable aspect of a student's music education. Attendance requirements for this course include Thursday morning Music Forums as well as the number of formal concerts specified in the syllabus.

MU 201 - MUSIC THEORY I

Semester Hours: 3

Fundamentals of basic musicianship through practical as well as theoretical studies. Development of skills in written harmony and analysis. Appropriate Musicianship skills (e.g. MU 203) to be taken concurrently throughout theory program. Prerequisites: The approval of instructor or department chair. Offered Spring semesters only.

MU 202 - MUSIC THEORY II

Semester Hours: 3

Continuation of MU 201. Offered Fall semesters only. Prerequisites: MU 201 and MU 203.

MU 203 - MUSICIANSHIP SKILLS I

Semester Hour: 1

To be taken concurrently with MU 201 and designed to complement written studies. Exercises in sight singing using solfege, numbers or other systems. Basic conducting patterns, rhythmic execution and melodic, harmonic, and rhythmic dictation. Prerequisites: Approval of instructor or department chair. Offered Spring semesters only.

MU 204 - MUSICIANSHIP SKILLS II

Semester Hour: 1

Continuation of MU 203. Offered Fall semesters only. Prerequisites: MU 201 and MU 203.

MU 205 - JAZZ THEORY

Semester Hours: 2

This course serves as an introduction to the theoretical analysis of jazz harmony, with an emphasis on styles from the bebop era and later. Offered every other Fall semester. Prerequisites: MU 201.

MU 207 - MUSIC TECHNOLOGY I

Semester Hours: 3

Students will learn the basics of using a computer interface to create and edit music, using a software MIDI sequencer and Digital Audio Workstation. Students will learn the basics of MIDI sequencing and music production. Prerequisites: MU 106.

MU 208 - MUSIC TECHNOLOGY II

Semester Hours: 3

Students will learn advanced techniques in digital audio production, including (but not limited to): Advanced MIDI sequencing, audio sampling, and production/mastering. Prerequisites: MU 106, MU 207.

MU 301 - THEORY OF MUSIC III

Semester Hours: 3

A study on chromatic harmony and a continuation of the studies of MU 201 and MU 202. Prerequisites: MU 202 and MU 204.

MU 302 - MUSICAL MATLS OF MODERN ERA

Semester Hours: 3

Systems of tonal organization, compositional procedures, terminology, and analytical methods that related to music since 1900. Offered every other Fall semester only. Prerequisites: MU 301 and MU 303 and MU 304.

MU 303 - MUSICIANSHIP SKILLS III

Semester Hour: 1

Continuation of MU 204. Offered Spring semesters only. Prerequisites: MU 202 and MU 204.

MU 305 - MUSIC TECHNOLOGY III

Semester Hours: 3

This course will focus primarily on analogue and digital audio systems setup and implementation. Mixing consoles, amplifiers, loudspeakers, microphones, keyboards, playback equipment, processing, cabling, configuration, computer hardware and software will be discussed and demonstrated in depth. Prerequisite: MU 106.

MU 306 - MUSIC TECHNOLOGY IV

Semester Hours: 3

An exploration of music technology hardware and software, including an overview of acoustics, MIDI and digital audio data structures, and an introduction to multimedia authoring. Offered every other Spring semester only. Prerequisites: MU 106.

MU 311 - HISTORY OF MUSIC I

Semester Hours: 3

Focus on music as an art in western civilization to 1750. Representative musical works and style. Understanding of musical concepts in view of historical background and cultural context. Offered Fall semesters only. Prerequisites: MU 100 and MU 301.

MU 312 - HISTORY OF MUSIC II

Semester Hours: 3

Focus on music as an art in western civilization from 1750 to the present. Representative musical works and style. Understanding of musical concepts in view of historical background and cultural context. Offered Spring semesters only. Prerequisites: MU 100 and MU 301.

MU 313 - SURVEY OF CHURCH MUSIC

Semester Hours: 3

Explores Christian music from historical and musical perspectives. Prerequisites: MU 100 and MU 301.

MU 314 - THE BEATLES

Semester Hours: 3

The purpose of this course is to familiarize the student with the music, lyrics, recordings, personal and public lives, production techniques, career strategy, social ramifications, and technological impact of the musical group known as The Beatles. The course will provide the student with an appreciation for the music itself, and a broader comprehension of the social, economic, political, and cultural upheavals that gave rise to the musical trends of the Sixties.

MU 316 - HIST & APPRECIATION OF JAZZ

Semester Hours: 3

This course is designed to explore the history and development of jazz as an art form, from its origins as popular music to its evolution into an Art Music. Improvisation will be explained and explored in the context of the different styles of jazz. The course will focus on understanding through listening to jazz. Every other spring semester only. Prerequisite: MU 100.

MU 317 - JAZZ ARRANGING

Semester Hours: 2

This course provides the student with instruction in arranging for small and large jazz ensembles, both instrumental and vocal. Offered every other Spring semester only. Prerequisite: MU 205.

MU 320 - PIANO PEDAGOGY

Semester Hours: 2

Materials, techniques, and practices in teaching beginners and students through lower advanced grades of piano. Practical experience. Offered upon demand. Prerequisite: approval of instructor.

MU 321 - PIANO PEDAGOGY II

Semester Hours: 2

An examination of relevant methods in piano pedagogy and technique for all levels of instruction. The course will also assess the historical achievements made by previous pedagogues in the field of piano pedagogy. Prerequisite: MU 320.

MU 322 - DICTION FOR SINGERS

Semester Hours: 2

Intended as an overview for vocal and choral students who wish to learn the diction requirements for singing in Latin, Italian, German, French, and English. Offered every Fall semester only. Prerequisite: MUA 111.

MU 325 - CONDUCTING

Semester Hours: 2

Basic techniques of choral and instrumental conducting. Offered Fall semesters only. Prerequisite: MU 301.

MU 399 - SPECIAL TOPICS IN MUSIC

Semester Hours: 3

Special topics in music. Focus and emphasis of topics announced in advance. Offered upon demand.

MU 401 - FORM AND ANALYSIS

Semester Hours: 2

Musical forms and analysis. Offered every other Fall semester only. Prerequisites: MU 303 and 312.

MU 402 - CHURCH MUSIC METHODS, MATERIALS & ADMINISTRATION

Semester Hours: 3

Church Music Methods, Materials, and Administration. Prerequisite: MU 301.

MU 404 - MUSIC TECHNOLOGY INDIVIDUAL PROJECT

Semester Hour: 1

Three-semester sequence for students enrolled in music technology majors and minors. Students will create individual projects in MIDI, sound creation and editing, and multimedia. Prerequisite: MU 306.

MU 406 - INTERNSHIP IN MUSIC TECHNOLOGY

Semester Hours: 3

An internship of eight hours per week working in the music technology industry. Offered upon demand. Prerequisite: MU 306.

MU 407 - INTERNSHIP MUSIC BUSINESS

Semester Hours: 3

Internship in Music Business. Prerequisites: MU 100 and MU 110 and MU 301 and MKT 301 and MGT 301 and FIN 410.

MU 408 - INTERNSHIP CHURCH MUSIC

Semester Hours: 3

An internship of nine hours per week working in church music. Prerequisites: MU 100 and MU 301 and MU 313 and MU 402 and MUE 328.

MU 409 - INTERNSHIP GROUP PIANO PEDAGOGY

Semester Hour: 1

An internship of three hours per week working with an approved group piano program. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 410 - INTERNSHIP INDIVIDUAL PIANO PEDAGOGY

Semester Hours: 3

An internship of nine hours per week working with a local piano teacher. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 411 - INTERNSHIP INDIVIDUAL PIANO PEDAGOGY

Semester Hours: 3

Courses of study and activity developed by the student and submitted to music faculty for approval. Projects to reinforce learning and performance experiences. May be repeated, but no more than two hours count toward degree requirements. Offered upon demand. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 416 - ORCHESTRATION

Semester Hours: 2

Instruments of the band and orchestra, their ranges, transpositions, and capabilities. Practical experience in arranging for instruments. Offered every other Fall semester only. Prerequisite: MU 302.

MU 420 - PIANO LITERATURE

Semester Hours: 2

Music for string keyboard instruments from the pre-pianoforte period to the present. Representative works from all periods. Offered upon demand. Prerequisites: MU 302 and MU 304 and MU 312.

MU 425 - ADVANCED CONDUCTING

Semester Hours: 2

Review of basic conducting patterns. Emphasis on communication as the role of the conductor. Detailed score preparation. Offered every other Spring semester only. Prerequisite: MU 325.

MU 440 - STUDIO INSTR-VOICE

Semester Hours: 0.5

Music, BA - Liberal Arts Emphasis

The Bachelor of Arts in Music with an Emphasis in Liberal Arts includes the General Education Requirements, the Music Core, a minor (or second major) in a discipline other than music, and electives to total 120 semester hours. This emphasis serves as a traditional liberal arts education. Students with dual interests and abilities will benefit from this degree offering.

- Music, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	

EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	

MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music Liberal Arts Major Requirements		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Minor Courses		18+
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. 4 of the 7 hours should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399).

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
FYE 101	CHARGER SUCCESS	1
Math		3
MU 106	INTRO TO MUSIC TECHNOLOGY	1
MU 100	INTRO TO MUSIC LITERATURE	3
Principle Instrument		1.5
Term Semester Hours:		12.5
Spring		
EH 102	COLLEGE WRITING II	3
MU 201 & MU 203	MUSIC THEORY I and MUSICIANSHIP SKILLS I	4

Science w/Lab		4
Principle Instrument		1.5
Ensemble		1
Term Semester Hours:		13.5
Year 2		
Fall		
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
WLC 101		3
Science w/Lab		4
Principle Instrument		1.5
MU 202	MUSIC THEORY II	4
& MU 204	and MUSICIANSHIP SKILLS II	
Ensemble		1
Term Semester Hours:		16.5
Spring		
WLC 102		3
Social/Behavioral Science		3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
Principle Instrument		1.5
MU 301	THEORY OF MUSIC III	3
or MU 303	or MUSICIANSHIP SKILLS III	
Ensemble		1
Term Semester Hours:		14.5
Year 3		
Fall		
Humanities		3
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Principle Instrument 4XX		1.5
Ensemble and Electives		4
MU 311	HISTORY OF MUSIC I	3
MU 325	CONDUCTING	2
Term Semester Hours:		16.5
Spring		
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Social/Behavioral Science		3
MU 312	HISTORY OF MUSIC II	3
MUA 498		1.5
Ensemble		1
Minor Course		3
Term Semester Hours:		14.5
Year 4		
Fall		
Ensemble		1
Minor Courses		9
Electives		6
Term Semester Hours:		16
Spring		
Ensemble		1

Minor Courses	9
Electives	6
Term Semester Hours:	16
Total Semester Hours:	120

Music, BA - Performance Emphasis

The Bachelor of Arts in Music with an Emphasis in Performance includes the standard College of Liberal Arts General Education Requirements, the Music Core, an additional 21 semester hours of music coursework, and electives to total 120 semester hours. Students desiring additional performance studies beyond the standard music major will benefit from this degree offering.

- Music, BA requires 120 credit hours.
- No minor is required for the Music Major with a Performance Emphasis.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	

or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II

BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music Performance Major Requirements		61
Music Core		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3

Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Performance Emphasis		21
MUA 400 level		1.5
MUA 499	PERFORMANCE EMPHASIS RECITAL	1.5
Additional Ensembles MUX 300-level ¹		5
MU 302	MUSICAL MATLS OF MODERN ERA	3
MU 401	FORM AND ANALYSIS	2
MU 425	ADVANCED CONDUCTING	2
Piano Proficiency Exam		0
Music Elective Hours		4
Upper Level Music Electives 300+		2
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. In the Music Core, 4 of the 7 hours should be conducted ensembles. In the Performance emphasis, 3 of the 5 hours should be conducted ensembles. Conducted Ensembles include: MUX 390, MUX 391, MUX 392, MUX 393, and MUX 399.

Music, BA - Jazz Emphasis

The Bachelor of Arts in Music with an Emphasis in Jazz includes the standard College of Liberal Arts General Education Requirements, the Music Core, an additional 25 semester hours of music coursework, and electives to total 120 semester hours. The core of this emphasis is a traditional music degree, with the same "classical" performance requirements as in the other music emphases. Students desiring additional studies in jazz beyond the standard music major will benefit from this degree offering.

- Music, BA requires 120 credit hours.
- No minor is required for the Music Major with a Jazz Emphasis.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.

- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE	

or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
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Area V: Pre-Professional Courses **3**

WLC 101, 102, 201, or 202	
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Music with a Jazz Emphasis Major Requirements **65**

Music Core **40**

The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.

MU 100	INTRO TO MUSIC LITERATURE	3
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Principal Instrument **9**

MUA 200-level	
MUA 300-level	
MUA 400-level	
MUA 498	SENIOR RECITAL

Music Theory **12**

MU 201	MUSIC THEORY I
MU 203	MUSICIANSHIP SKILLS I
MU 202	MUSIC THEORY II
MU 204	MUSICIANSHIP SKILLS II
MU 301	THEORY OF MUSIC III
MU 303	MUSICIANSHIP SKILLS III

Ensembles ¹ **7**

MUX 300-level	
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Additional Music Requirements **9**

MU 106	INTRO TO MUSIC TECHNOLOGY
MU 311	HISTORY OF MUSIC I

MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Jazz Emphasis		25
MUJ 200 level, at least 3 semesters		4.5
MUJ 498	SENIOR JAZZ RECITAL	1.5
MUX 389	UAH JAZZ ENSEMBLE (At least four semesters)	4
MUX 386	JAZZ CHAMBER ENSEMBLES (At least four semesters)	2
MUJ 205	JAZZ THEORY	2
MU 317	JAZZ ARRANGING	2
MUJ 308	JAZZ IMPROVISATION I	2
MUJ 309	JAZZ IMPROVISATION II	2
MU 316	HIST & APPRECIATION OF JAZZ	3
MUJ 131	JAZZ STUDIO INSTR-PIANO (At least two semesters)	2
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. 4 of the 7 hours, should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, and MUX 399).

Music, BA - Music Technology Emphasis

The Bachelor of Arts in Music with an Emphasis in Music Technology includes the standard College of Arts, Humanities, and Social Sciences General Education Requirements, the Music Core, an additional 22 semester hours of music technology, electrical engineering, and computer engineering coursework, and electives to total 120 semester hours. The core of this emphasis is a traditional music degree, with the same "classical" performance requirements as the other music programs. Students with dual interests in music and computer technology will benefit from this degree offering.

- Music, BA requires 120 credit hours.
- No minor is required for the Music Major with a Technology emphasis.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12

Fine Arts

3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature

3-6

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts

3-6

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	

ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music with a Technology emphasis Major Requirements		62
Music Core		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Music Technology Emphasis		22
MU 207	MUSIC TECHNOLOGY I	3
MU 208	MUSIC TECHNOLOGY II	3
MU 305	MUSIC TECHNOLOGY III	3
MU 306	MUSIC TECHNOLOGY IV	3
MU 404	MUSIC TECHNOLOGY INDIV PROJECT	1
MU 406	INTERNSHIP IN MUSIC TECHNOLOGY	3
FMA 260	VIDEO PRODUCTION	3

Technical Elective ²	3
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Elective Courses

Elective hours vary by program, see advisor.	
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Total Semester Hours	120
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¹ Must include at least one hour of MUX 396. 4 of the 7 hours should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399).

² The technical elective is selected by the student in conjunction with their Music Technology advisor.

Music, BA - Music Business Emphasis

The Bachelor of Arts in Music with an Emphasis in Music Business includes the standard College of Liberal Arts General Education Requirements, the Music Core, an additional 21 semester hours of music and business coursework, and electives to total 120 semester hours. The core of this emphasis is a traditional music degree, with the same "classical" performance requirements as in the other music emphases. Students with dual interests in music and business will benefit from this degree offering.

- Music, BA requires 120 credit hours.
- No minor is required for the Music Major with a Business emphasis.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	

EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	

MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music with a Business Emphasis Major Requirements		65
Music Core		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Music Business Emphasis		21
MU 110	INTRO ARTS MANAGEMENT	
MU 407	INTERNSHIP MUSIC BUSINESS	
MKT 301	PRINCIPLES OF MARKETING	
MGT 301	MANAGING ORGANIZATIONS	
FIN 301	PRINCIPLES OF FINANCE	
Choose two Business Electives:		
MGT 101	INTRO ENTREPRENEURSHIP	
MGT 405	NEW VENTURE STRATEGIES	
MKT 315	SALES MGT/PROF SELLING	
MKT 420	SERVICES MARKETING	
Electives		
Elective Hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. 4 of the 7 hours should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399).

Music, BA - Church Music Emphasis

The Bachelor of Arts in Music with an Emphasis in Church Music includes the standard College of Liberal Arts General Education Requirements, the Music Core, an additional 21 semester hours of music, sociology, and psychology coursework, and electives to total 120 semester hours. The core of this emphasis is a traditional music degree, with the same "classical" performance requirements as in the other music emphases. Students with an interest in church music will benefit from the degree offering.

- Music, BA requires 120 credit hours.
- No minor is required for the Music major with a Church emphasis.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	

or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY

11-12

3-4

8

BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music with a Church Emphasis Major Requirements		61
Music Core		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		

MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	
MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Church Music Emphasis		21
MU 313	SURVEY OF CHURCH MUSIC	3
MU 402	CHURCH MUSIC METDS, MATRL & AD	3
MU 408	INTERNSHIP CHURCH MUSIC	3
MUA 111 & MUA 121	STUDIO INSTR-VOICE and STUDIO INSTR-ORGAN	3
MUE 328	TEACHING GENERAL MUSIC	3
PHL 314	ASIAN PHILOSOPHY	3
SOC 375 or PY 375	SOCIAL PSYCHOLOGY SOCIAL PSYCHOLOGY	3
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. 4 of the 7 hours should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399).

Music, BA - Piano Pedagogy Emphasis

The Bachelor of Arts in Music with an Emphasis in Piano Pedagogy includes the standard College of Liberal Arts General Education Requirements, the Music Core, an additional 21 semester hours of music, sociology, and business coursework, and electives to total 120 semester hours. The core of this emphasis is a traditional music degree, with the same "classical" performance requirements as in the other music emphases.

- Music, BA requires 120 credit hours.
- No minor is required for the Music major with an emphasis in Piano Pedagogy.
- Must have a 2.0 GPA in major and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 36 of 120 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.

- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	

or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Code	Title	Semester Hours
Area V: Pre-Professional Courses		3
WLC 101, 102, 201, or 202		
Music with a Piano Pedagogy Emphasis Major Requirements		62
Music Core		40
The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music.		
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ¹		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 311	HISTORY OF MUSIC I	
MU 312	HISTORY OF MUSIC II	

MU 325	CONDUCTING	
Music Forum		0
Students must pass this course 7 times, transfer students must pass this course for every semester they are in enrolled as a Music major at UAH		
MU 199	MUSIC FORUM	
Piano Pedagogy Emphasis		22
MU 320	PIANO PEDAGOGY	
MU 321	PIANO PEDAGOGY II	
MU 420	PIANO LITERATURE	
MU 409	INTERNSHIP GRP PIANO PEDAGOGY	
MU 410	INTERNSHIP INDIVID PIANO PEDAG	
MU 110	INTRO ARTS MANAGEMENT	
MUE 328	TEACHING GENERAL MUSIC	
MKT 301	PRINCIPLES OF MARKETING	
FIN 301	PRINCIPLES OF FINANCE	
Elective Courses		
Elective hours vary by program, see advisor.		
Total Semester Hours		120

¹ Must include at least one hour of MUX 396. 4 of the 7 hours should be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399).

Music, BA - Music Education Emphasis

The Bachelor of Arts in Music with an Emphasis in Music Education includes 38 semester hours of General Education Requirements, the 40 semester hour Music Core, an additional 21 semester hours of music and professional music education coursework, and 37 semester hours of courses within the Department of Education, for a total of 136 semester hours. The course of study integrates music and professional education courses to develop a superior music teacher, certified to teach at all levels P-12 (Class B Professional Teacher's Certificate) with emphasis in either choral or instrumental music. Students must demonstrate throughout their course of study competencies in both performance and teaching. Because of the demands of this program, there is little opportunity to elect courses other than those required and outlined below.

General Education Requirements for Choral and Instrumental Music Education

The General Education Requirements for the Music Education Emphasis are different from the General Education Requirements for other music emphases. The Music Education Emphasis leads to meeting the requirements for earning an Alabama Class B Professional Teacher's Certificate.

- Music Education, BA requires 136 credit hours.
- No minor is required for the Music Major with an Education emphasis.
- Must complete relevant Praxis exams as required by the College of Education.
- Must have a 2.0 GPA in major and overall. Please note that the State of Alabama requires a 2.5 GPA in the major for certification.
- No more than 6 credit hours of HPE may count in degree requirements.
- 39 of 136 credit hours must be taken at 300 level or higher.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 64 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	

EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	

WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV).

Degree Requirements:

Requirements for Choral Music Education Students

Code	Title	Semester Hours
Please see General Education Areas I-IV listed above		
Area V: Pre-Professional Electives		
CM 113, PY 101, and PY 201 are required in the appropriate areas above for Education certification.		
Music with a Choral Education Emphasis Major Requirements		61
Music Core ¹		40
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ²		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	1
MU 311	HISTORY OF MUSIC I	3
MU 312	HISTORY OF MUSIC II	3
MU 325	CONDUCTING	2
Music Forum		
MU 199	MUSIC FORUM (0 semester hour x 7 sem.)	
Additional Music Education Emphasis Courses		21
Secondary Instrument:		
MUA 131	STUDIO INSTR-PIANO (3 x 1 (if piano is principal instrument, then voice here)	
or MUA 111	STUDIO INSTR-VOICE	
MUA 141	STUDIO INSTR-GUITAR	

or MUA 151	STUDIO INSTR-STRINGS	
MUE 321	CHORAL/INSTRUMENTAL DIR OBSERV	
Additional Music Courses		
MU 322	DICTION FOR SINGERS	2
MU 302	MUSICAL MATLS OF MODERN ERA	3
MU 401	FORM AND ANALYSIS	2
MU 416	ORCHESTRATION	2
MU 425	ADVANCED CONDUCTING	2
MUE 328	TEACHING GENERAL MUSIC	3
MUE 428	VOCAL/CHORAL METH SEC SCH	3
Piano Proficiency Exam		
Education		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 307	MULTICULTURAL FND EDUCATION	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 499	P-12 INTERNSHIP (Music)	12

¹ The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music. This part of the curriculum includes private lessons, ensembles, and courses in music history and literature, music theory, conducting, and music technology. See the course lists below for specifics.

² 4 of the 7 Hours must be conducted ensembles (MUX 390, MUX 391, MUX 392, MUX 393, or MUX 399) and at least one semester hour must be a chamber ensemble.

Requirements for Instrumental Music Education Students

Code	Title	Semester Hours
Please see General Education Areas I-IV listed above		
Area V: Pre-Professional Requirements		
CM 113, PY 101, and PY 201 are required in the appropriate areas above for Teacher Certification.		
Music with an Education Instrumental Emphasis Major Requirements:		61
Music Core ¹		40
MU 100	INTRO TO MUSIC LITERATURE	3
Principal Instrument		9
MUA 200-level		
MUA 300-level		
MUA 400-level		
MUA 498	SENIOR RECITAL	
Music Theory		12
MU 201	MUSIC THEORY I	
MU 203	MUSICIANSHIP SKILLS I	
MU 202	MUSIC THEORY II	
MU 204	MUSICIANSHIP SKILLS II	
MU 301	THEORY OF MUSIC III	
MU 303	MUSICIANSHIP SKILLS III	
Ensembles ²		7
MUX 300-level		
Additional Music Requirements		9
MU 106	INTRO TO MUSIC TECHNOLOGY	1

MU 311	HISTORY OF MUSIC I	3
MU 312	HISTORY OF MUSIC II	3
MU 325	CONDUCTING	2
MU 199	MUSIC FORUM (0 semester hour x 7 sem.)	0
Music Instrumental Emphasis Courses		21
Secondary Instrument (2 woodwind, 2 brass, 1 percussion, 1 string minus principal instrument)		5
MUA 151 or MUA 141	STUDIO INSTR-STRINGS STUDIO INSTR-GUITAR	
MUA 161	STUDIO INSTR-WOODWINDS	
MUA 171	STUDIO INSTR-BRASS	
MUA 181	STUDIO INSTR-PERCUSSION	
Additional Music Courses		
MUE 321	CHORAL/INSTRUMENTAL DIR OBSERV	1
MU 302	MUSICAL MATLS OF MODERN ERA	3
MU 401	FORM AND ANALYSIS	2
MU 416	ORCHESTRATION	2
MU 425	ADVANCED CONDUCTING	2
MUE 328	TEACHING GENERAL MUSIC	3
MUE 429	ORG & DIR INSTRU GRP SEC SCH	3
Piano Proficiency Exam		
Education		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 499	P-12 INTERNSHIP (Music)	12

- ¹ The Music Core consists of a common 40 semester hours of music courses that are included in every Bachelor of Arts degree in Music. This part of the curriculum includes private lessons, ensembles, and courses in music history and literature, music theory, conducting, and music technology. See the course lists below for specifics.
- ² 4 of the 7 Hours should be conducted ensembles (MUX 390, MUX 391, MUX 382, MUX 393, or MUX 399) and at least one semester hour must be a chamber ensemble.
- ³ Students need to take two brass, two woodwind, one percussion (minus the principle instrument).

Film and Media Arts Minor

Film and Media Arts Minor

The program for the study of Film & Media Arts (FMA) offers a variety of subjects for students interested in video and media production technologies, including live event and broadcast studio production. This program combines both production and film studies for a unique offering at UAH where students can get a minor in FMA and ultimately certification in a variety of production roles. It is flexible in its structure, allowing students to engage in courses that combine skills and interests, such as sound and music technology or animation, with video production remaining the core focus.

Film and Media Arts Minor

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Code	Title	Semester Hours
Core Classes		15
TH 123	INTRO TO FILM STUDIES	
TH 210	WRITING FOR VISUAL MEDIA	
TH 260	VIDEO PRODUCTION	
TH 334	HISTORY OF AMERICAN CINEMA	
TH 431	SENIOR CAPSTONE THEATRE	
Electives (Select 2 courses from the following): ¹		6
FMA 340	SP TOPICS FILM & MEDIA ARTS	
FMA 360	VIDEO PRESENTATION	
FMA 401	INTERNSHIP IN VIDEO	
MU 305	MUSIC TECHNOLOGY III	
Total		21 Hours

¹ Additional courses such as FMA 375 - Documentary Film Production, FMA 315 - Live Sound, and FMA 460 - Video III/Broadcast could be offered as additional elective options. Please speak with a College of Arts, Humanities, and Social Sciences Academic Advisor to use these courses to fulfill elective requirements for this minor.

Note: Courses may be listed under Film and Media Arts (FMA) prefix instead of Theatre (TH).

Music Minor

Students may select music as a supportive minor to their major discipline. A total of 23 semester hours of music are necessary (12 semester hours upper-level).

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Code	Title	Semester Hours
MU 100	INTRO TO MUSIC LITERATURE	3
MU 201	MUSIC THEORY I	3
MU 203	MUSICIANSHIP SKILLS I	1
MUX 3XX	Ensemble	6
MU 3XX	300+ MU Electives (excludes ensembles)	6
MUA or MUJ 1x1	Studio Instruction	4
Total Semester Hours		23

Music, Stage, and Screen Minor

The Music, Stage, and Screen minor has three versions, each with the same architecture: 12 credits of 100-200 level foundations in one of the three disciplines, 6 credits of performance or applied study, and 6 credits of electives. Each version sums to 24 credits and includes at least 6 credits of upper level courses. The requirements for each version are outlined below.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Music, Stage, and Screen Requirements (Theatre Majors)

Code	Title	Semester Hours
MU 108	INTRODUCTION TO MUSIC THEORY	3
MUA 111	STUDIO INSTR-VOICE	3
TH 155	SURVEY MUSICAL THEATRE	3
TH 115	INTRO STAGE MOVEMENT	3
TH 425	THEATRE MAINSTAGE ¹	6
or MUX 395	OPERA WORKSHOP	
Upper level elective ²		3
Upper level elective ²		3
Total Hours		24

¹ Any combination of Opera/Theatre for a total of 6 credit hours

² Please see minor advisor for list of approved electives

Music, Stage, and Screen Requirements (Music Majors)

Code	Title	Semester Hours
TH 150	SCRIPT ANALYSIS	3
TH 221	ACTING	3
TH 115	INTRO STAGE MOVEMENT	3
TH 155	SURVEY MUSICAL THEATRE	3
TH 425	THEATRE MAINSTAGE ¹	6
or MUX 395	OPERA WORKSHOP	
Upper level elective ²		3
Upper level elective ²		3
Total Hours		24

¹ Any combination of Opera/Theatre for a total of 6 credit hours

² Please see minor advisor for list of approved electives

Music, Stage, and Screen Requirements (Any other major)

Code	Title	Semester Hours
FMA 123	INTRO TO FILM STUDIES	3
FMA 260	VIDEO PRODUCTION	3
FMA 360	VIDEO PRESENTATION	3
MU 207	MUSIC TECHNOLOGY I	3
MU 208	MUSIC TECHNOLOGY II	3
MU 305	MUSIC TECHNOLOGY III	3
Upper level elective ¹		3
Upper level elective ¹		3
Total Hours		24

¹ Please see minor advisor for list of approved electives

Music Technology Minor

Students may select music technology as a supportive minor for programs such as Computer Engineering, Electrical Engineering and Computer Science.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Code	Title	Semester Hours
MU 100	INTRO TO MUSIC LITERATURE	3
MU 106	INTRO TO MUSIC TECHNOLOGY	1
MU 201	MUSIC THEORY I	3
MU 203	MUSICIANSHIP SKILLS I	1
MU 202	MUSIC THEORY II	3
MU 204	MUSICIANSHIP SKILLS II	1
MU 306	MUSIC TECHNOLOGY IV	3
MU 404	MUSIC TECHNOLOGY INDIV PROJECT	1
MU 406	INTERNSHIP IN MUSIC TECHNOLOGY	3
MUX 3XX	Ensembles	2
Total Semester Hours		21

Philosophy

Morton Hall 206
 Telephone 256.824.2338
 Email: philosophy@uah.edu

Mission

To instruct people in critical and imaginative thinking, to teach Western and Eastern philosophical traditions, and to inspire the wonder at the world that Plato says begins all philosophical reflection.

The Department of Philosophy offers the following degree programs:

- Philosophy, BA (p. 190)
- Philosophy Minor (p. 194)

Program Objectives

1. Enable our students both to understand and accept their responsibilities as citizens and future leaders and also to succeed in their professional lives with the skills of critical thinking, imaginative problem-solving, and rigorous thought, which philosophy instruction imparts.
2. Promote the active development and dissemination of high-quality research. Every member of the department should be actively engaged in the production and publication of original philosophical works.
3. Fulfill service responsibilities to the university, the wider philosophical community, and finally, by promoting educational programs aimed at the university and larger community, to educate the general public about the value of philosophy.

Major in Philosophy

- Philosophy, BA (p. 190)

Minor in Philosophy

- Philosophy (p. 194)

PHL 101 - INTRODUCTION TO PHILOSOPHY
 Semester Hours: 3

Introduction to philosophical reflection focusing upon central problems in the major branches of the western tradition: metaphysics, epistemology and value theory.

PHL 102 - INTRO TO ETHICS

Semester Hours: 3

Major ethical positions in both classical and modern thought. The course may include a consideration of case studies drawn from practical contexts in engineering, medicine and other areas.

PHL 103 - INTRODUCTION TO LOGIC

Semester Hours: 3

Methodology of formal and informal reasoning.

PHL 150 - TECH, SCIENCE & HUMAN VALUES

Semester Hours: 3

A philosophical examination of the intersection of human values with science and technology. Questions include: what exists, the nature and extent of knowledge, and moral problems posed by technical and scientific change.

PHL 220 - CRIT THINKING FOR INTEL ANALYS

Semester Hours: 3

Examines critical reasoning strategies designed to correct cognitive biases and improve tradecraft skills in the context of intelligence analysis.

PHL 301 - ANCIENT PHILOSOPHY

Semester Hours: 3

Survey of classical philosophy from the Pre-Socratics through Aristotle. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 302 - MODERN PHILOSOPHY

Semester Hours: 3

Survey of the British and Continental traditions from Descartes through Kant. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 303 - CONTINENTIAL PHILOSOPHY

Semester Hours: 3

Examination of important trends in the Continental tradition from nineteenth through twenty-first century thought.

PHL 310 - PHILOSOPHY OF ART

Semester Hours: 3

Major aesthetic theories of the western tradition, may include visual or non-visual arts. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 311 - PHILOSOPHY OF SCIENCE

Semester Hours: 3

Critical assessment of the historical and logical foundations of the natural and theoretical sciences. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 312 - AMERICAN PHILOSOPHY

Semester Hours: 3

Survey of American thought with emphasis upon the development of pragmatism in the work of Peirce, James, and Dewey. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 314 - ASIAN PHILOSOPHY

Semester Hours: 3

Survey of philosophical traditions from Asia, such as various schools of Buddhism and Hinduism, Confucianism, Daoism. Topics may include: conceptions of human nature and the good life, the nature of the self and its relation to society, comparisons to philosophies from Europe and North America. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 317 - PHILOSOPHY OF MIND

Semester Hours: 3

A philosophical examination of a range of models, theories, and arguments concerning the nature of mind and its relationship to the physical world. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 320 - SYMBOLIC LOGIC

Semester Hours: 3

Symbolic deductive logic, including propositional calculus (truth-functional logic), predicate calculus (propositional functions and quantification), and the logic of relations. Prerequisite: PHL 103.

PHL 330 - CLASSICAL POLITICAL PHILOSOPHY

Semester Hours: 3

Careful analysis of the roots of political inquiry in selected works of ancient and medieval political philosophers. Major themes include the search for a just social order, the proper relationship between the citizen and the state, and other fundamental concepts of western political institutions. Prerequisite: PHL 101 or PHL 102 or PSC 101.

PHL 332 - MODERN POLITICAL PHILOSOPHY

Semester Hours: 3

Critical examination of the philosophical foundations for modern politics that emerged from the 15th through the 19th century in western Europe. Major themes include the concepts of individual rights, property, representation, majority rule, limited government, and revolution. Prerequisite: PHL 101 or PHL 102 or PSC 101.

PHL 335 - FEMINIST PHILOSOPHY

Semester Hours: 3

Philosophical examination of issues related to feminism and feminist theory. Topics may include: women in the history of philosophy, contemporary feminist political theory, feminist ethics, feminist epistemology, or gender theory (including racial and sexual identity). Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 337 - PHILOSOPHY OF RACE

Semester Hours: 3

Philosophical examination of the nature and importance of race. Topics may include: the debate between essentialist and constructionist views of race, the political importance of race, and the intersection of race and other forms of identity. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 385 - SELECTED TOPICS

Semester Hours: 3

Intensive examination of particular problems, periods, or movements in the history of philosophy. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 395 - RESEARCH SEMINAR

Semester Hours: 3

Intensive examination of particular problems, periods, or movements in the history of philosophy. Intensive examination of selected topics leading to the preparation of a substantial philosophical paper. Required of all majors. May be taken twice for credit. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 397 - PHILOSOPHY INTERNSHIP

Semester Hours: 1-3

A supervised experience in a professional environment enhanced by a student's background in philosophy. Paid or unpaid. Prerequisites: 18 hrs of PHL, JR/SR standing, minimum 3.0 GPA in PHL Major, approval of department chair.

PHL 399 - DIRECT STUDY IN PHILOSOPHY

Semester Hours: 1-3

Independent study in an area of philosophy selected in consultation with faculty advisor. Requires approval of department chair. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 401 - METAPHYSICS

Semester Hours: 3

Critical examination of traditional and contemporary responses to questions about the nature of reality. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 402 - EPISTEMOLOGY

Semester Hours: 3

Investigation of fundamental problems of knowledge such as the relation of knowledge and belief, truth, certainty and skepticism, perception, logic, explanation, and justification. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 403 - ADVANCED MORAL PHILOSOPHY

Semester Hours: 3

Critical examination of significant works in moral and political philosophy such as the relationship between morality and human nature, the individual and the state, and the consequences of actions. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 438 - CONTEMPORARY POLITICAL THOUGHT

Semester Hours: 3

Systematic study of recent and current thinking on issues and problems of politics, social theory, and ethics with special attention to the philosophical dimension of these issues and problems. Prerequisite: 6 hrs of PHL or PSC, except PHL 103.

Philosophy, BA

Students majoring in philosophy must complete a minimum of 30 semester hours in philosophy with at least 21 semester hours at the 300-level or above.

- Philosophy, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a minor consisting of 21 credit hours, at least 12 credit hours at the 300-level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Degree Requirements:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC	

or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, or 202		
PHL 102 will share with the Philosophy major and the Pre-Professional area. It may not also count in Area II listed above. The hours only count once towards overall credit hours.		
Choose 13 additional hours from the above listed Literature, Humanities, Fine Arts, Mathematics, Sciences, History, and Social and Behavioral Sciences.		

Philosophy Major Requirements **30**

PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 301	ANCIENT PHILOSOPHY	
PHL 302	MODERN PHILOSOPHY	
PHL 395	RESEARCH SEMINAR	
PHL 401	METAPHYSICS	
or PHL 402	EPISTEMOLOGY	
or PHL 403	ADV MORAL PHILOSOPHY	
Upper Level PHL electives	Choose three PHL electives at the 300+ level	9
Any level PHL elective	Choose one PHL elective at any level	3
Minor Courses		18+
Elective Courses		
Elective courses vary by program, see advisor.		
Total Semester Hours		120
Year 1		
Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
FYE 101	CHARGER SUCCESS	1
Math		3
Science w/Lab		4
PHL 1XX		3
Term Semester Hours:		14
Spring		
EH 102	COLLEGE WRITING II	3
PHL 102	INTRO TO ETHICS	3
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Social/Behavioral Science		3
Science w/Lab		4
Term Semester Hours:		16
Year 2		
Fall		
PHL 103	INTRODUCTION TO LOGIC	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
WLC 101		3
Social/Behavioral Science		3
Fine Arts		3
Term Semester Hours:		15
Spring		
Humanities or Literature		3
Social/Behavioral Science		3
Area V		6
PHL 300+ Elective		3
Term Semester Hours:		15
Year 3		
Fall		
PHL 301	ANCIENT PHILOSOPHY	3
PHL 300+ Elective		3
Minor Course		3

Area V Courses		6
Term Semester Hours:		15
Spring		
PHL 302	MODERN PHILOSOPHY	3
Minor Courses		6
Area V Course		3
Elective		3
Term Semester Hours:		15
Year 4		
Fall		
PHL 395	RESEARCH SEMINAR	3
PHL 300+ Elective		3
Minor Courses		6
Elective		3
Term Semester Hours:		15
Spring		
PHL 4XX		3
Minor Courses		6
Electives		6
Term Semester Hours:		15
Total Semester Hours:		120

Philosophy Minor

Students minoring in philosophy must complete at least 21 semester hours in philosophy including PHL 103 and PHL 102. Recommendations concerning which courses might best complement a student's major and related interests are available from the philosophy faculty upon request. Appropriate philosophy courses may also be used as part of a program of cognate studies with other disciplines. Such a program must include at least 12 semester hours in courses numbered 300 or above.

- 25% of the minor must be earned at UAH
- 2.0 minimum GPA is required in the minor

Code	Title	Semester Hours
PHL 102	INTRO TO ETHICS	3
PHL 103	INTRODUCTION TO LOGIC	3
PHL 301	ANCIENT PHILOSOPHY	3
or PHL 302	MODERN PHILOSOPHY	
PHL Any level		3
PHL 300+		9
Total Semester Hours		21

Political Science

Morton Hall 278
 Telephone: 256.824.6192
 Email: polsci@uah.edu

The academic discipline of Political Science introduces students to critical thinking about the intellectual origins, defense, and critique of government, politics, and society in the United States and throughout the world. Political science classes focus on fundamental questions of governance: How should state and society be organized? How do the values of civil society and the economy influence political thinking? Who should exercise political power and who should not? What constitutes justice?

The Department of Political Science offers the following degree programs:

- Political Science, BA
- Political Science Minor
- Public Affairs and Policy, MA

Program Objectives

The Department of Political Science offers the Bachelor of Arts in Political Science, the Minor in Political Science, and the Master of Arts in Public Affairs and Policy. Faculty members assist students as they engage in empirical research and ethical critique of current events while evaluating competing explanations of those events with regard to government, politics, and society. They take into account politically relevant conceptual elements and practices embedded in or struggling against the intellectual foundations and elaborate edifices of diverse political arrangements and causes. Faculty members profess expertise in the discipline within which they teach as well as engage in cutting-edge scholarship to share with students more accurate and sophisticated explanations of and discoveries into the human condition, particularly as they relate to living socially and making decisions politically.

Major in Political Science

- Political Science, BA (p. 197)

Minors in Political Science

- Political Science (p. 202)

PSC 101 - INTRO TO AMERICAN GOVERNMENT

Semester Hours: 3

What motivates individuals and groups to act politically? This course introduces students to political structures, decision-making, and public policy in the U.S. The role of history in the development of current institutional structures and current political developments will be considered.

PSC 102 - INTRO TO COMPARATIVE POLITICS

Semester Hours: 3

In this class we explore ways to compare countries and political systems. We study a wide variety of countries for a better understanding of political dynamics around the world. This includes countries at various stages of industrialization and democratization, in different regions of the globe.

PSC 103 - INTRO TO STATE & LOCAL GOVT

Semester Hours: 3

Surveys the principles, forms, functions, and processes of state and local governments in the context of the American federal system, with specific emphasis on the political environment. Students will better understand the major functions of and the issues facing state and local governments.

PSC 260 - INTRODUCTION TO INTERNATIONAL RELATIONS

Semester Hours: 3

Examination of the basic factors underlying the conduct of international relations, focusing on conflict and changes taking place due to globalization. This course also seeks to stimulate intellectual curiosity, enhance critical thinking, and improve oral and writing skills.

PSC 300 - INTRO SOCIAL SCIENCE STATISTIC

Semester Hours: 3

This course covers basic statistical concepts, techniques, and the language of statistics; simple statistical modeling correlation and regression analysis; and nonlinear models and categorical models. Students will apply appropriate methods to analyze real world problems.

PSC 302 - AMERICAN CONGRESS

Semester Hours: 3

Studies the organization and role of the Congress, its leadership, internal processes, and relationships with other parts of the political system. The goal is to understand why Congress looks and acts the way it does, whose interests are represented, and how and why policies emerge as they do. Prerequisite: PSC 101.

PSC 304 - AMERICAN PRESIDENCY

Semester Hours: 3

Examination of the institution of the American presidency, its power, and the forces that shape it. Focus on developing students' ability to think conceptually and critically about the presidency, the president's role in the political system, and American politics in general. Prerequisite: PSC 101.

PSC 309 - POLITICAL PARTIES & INT GROUPS

Semester Hours: 3

A survey of major linkages between citizens and government, this course studies the formation, organization, activities, and impacts of political parties and interest groups - and factors affecting them. Students will think critically about these institutions and their roles in the American system. Prerequisite: PSC 101.

PSC 330 - CLASSI POLITI PHILOSOPHY

Semester Hours: 3

Careful analysis of the roots of political inquiry in selected works of ancient and medieval political philosophers. Major themes include the search for a just social order, the proper relationship between the citizen and the state, and other fundamental concepts of western political institutions. Prerequisite: PSC 101 or PHL 101 or PHL 102 or PHL 202 or permission of instructor.

PSC 332 - MODERN POLITICAL PHILOSO

Semester Hours: 3

Critical examination of the philosophical foundations for modern politics that emerged from the 15th through the 19th century in western Europe. Major themes include the concepts of individual rights, property, representation, majority rule, limited government, and revolution. Prerequisite: PSC 101 or PHL 101 or PHL 102 or permission of instructor.

PSC 334 - AMER POLITICAL THOUGHT

Semester Hours: 3

In-depth study of theorists, concepts and forces that have shaped American political values from the founding of the republic to the present. Major themes include the relationship between liberty and equality, rights and democracy, and industrialization and the public good. Prerequisite: PSC 101.

PSC 399 - CURRENT AFFAIRS

Semester Hour: 1

An examination of current national and international issues. Focus is on developing critical reading, listening, and writing skills. The course may be repeated up to three times.

PSC 420 - FEDERALISM & INTERGOV RELATION

Semester Hours: 3

Designed to help students navigate complex relationships among the 90,000+ governments in the U.S., this course examines the framework of federalism and the tools available to governments to influence public policy outcomes. Students will investigate the impacts of these relationships on policy. Prerequisite: PSC 101.

PSC 436 - POLITICAL IDEOLOGIES

Semester Hours: 3

Critical examination of the philosophical foundations and political ethics of contemporary political ideologies. Among the major ideologies studied will be relevant examples of conservatism, liberalism, Marxism, Nazism, and religion, such as liberation theology and Islamism. Prerequisite: PSC 101.

PSC 438 - CONTEMPORARY POLITICAL THOUGHT

Semester Hours: 3

Systematic study of recent and current thinking on issues and problems of politics, social theory, and ethics with special attention to the philosophical dimension of these issues and problems.

PSC 440 - REGIONAL STUDIES

Semester Hours: 3

This class compares and examines the politics of Asia, Latin America, the Middle East, or Africa, depending on the term. We focus on select countries of themes within each region as part of our study of political structures, history, and culture, for a deeper understanding of each area. Prerequisites: PSC 101 and PSC 102.

PSC 451 - LAW, COURTS, & PUBLIC POLICY

Semester Hours: 3

Examines the role of the courts in the making of public policy in the United States, with an emphasis on the use of the courts by interest groups seeking to achieve specific policy goals. Prerequisite: PSC 101.

PSC 452 - AMER CONSTITUTIONAL LAW

Semester Hours: 3

Examination of the structure of the federal government and its powers through an analysis of leading cases from the Supreme Court. Topics include federalism, separation of powers, and the proper role and decision-making process of the Supreme Court. Prerequisite: PSC 101.

PSC 454 - CIVIL LIBERTIES

Semester Hours: 3

Examines the relationship between the government and individuals in American society through an analysis of Supreme Court cases. The focus is on contemporary questions about the rights of individuals and appropriate limits to freedom of action set by government. Prerequisite: PSC 101.

PSC 461 - ECONOMIC DEVELOPMENT

Semester Hours: 3

Understand economic development in the developing world. Examine economic transformation & social justice. Highlight domestic and international institutional, structural, & political sources of economic dynamism/lack thereof in the Global South. Prerequisites: Junior standing or higher.

PSC 462 - DECN MKNG FOREIGN & SEC PLCY

Semester Hours: 3

An examination of the history, culture, policies, and structures shaping the development of U.S. foreign and national security policies. Special attention will be placed on the roles of Congress, National Security Council, Defense Department, State Department, and the intelligence community. Prerequisite: PSC 101.

PSC 464 - AMERICAN FOREIGN POLICY

Semester Hours: 3

An examination of the substance of contemporary U.S. foreign policies and the goals the country seeks to achieve around the world. Students will attempt to evaluate the effectiveness of those policies and examine why it is often difficult for the country to achieve its goals. Prerequisite: PSC 101.

PSC 466 - NATL SECURITY STRATEGY & PLCY

Semester Hours: 3

An examination of current U.S. national security strategy and policy. The course will review current strategy and policy documents, examine specific responses to the variety of threats facing the United States, and evaluate whether those policies are effective at achieving their goals. Prerequisite: PSC 101.

PSC 470 - ISSUES IN SECURITY POLICY

Semester Hours: 3

Examination of select security-related policy issues. The content of this course will vary during different terms, and students may take the course multiple times so long as the content differs. Prerequisite: PSC 101.

PSC 480 - ADV TOPICS POLITICAL SCIENCE

Semester Hours: 3

Select topics in local, state, national and world politics. This course may be repeated for credit as long as content of the course has changed.

PSC 484 - SENIOR SEMINAR

Semester Hours: 3

This class engages students in an advanced examination of the subfields of political science that are offered by the department. The course may be repeated with different faculty for up to 6 hours of credit. Prerequisites: PSC 101 and PSC 102.

PSC 495 - INTERNSHIP IN GOVERNMENT

Semester Hours: 1-6

Students may receive academic credit for an internship with a local, state, or federal governmental agency, or with political, legal, or public policy related organizations. Prerequisite: Instructor Permission.

PSC 498 - DIRECTED READINGS & RESEARCH

Semester Hours: 3

Supervised in-depth readings and/or individual research in an area of specialized interest to both student and instructor. Open to all students who have completed 15 semester hours in Political Science and have permission of the instructor.

Political Science, BA

- Political Science, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Students must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.

- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double-counting of classes must be approved through the CAHS Advising Office.
- No triple-counting of classes in Area IV, Area V, and the Political Science major is permitted.
- PSC 300 may not be included as a Political Science elective.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE	

or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Political Science majors may not include PSC 101, PSC 102, and PSC 260 to meet Area IV requirements. Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, or 202		
PSC 101, 102, and 103 will double count in Major and Pre-Professional area. These three classes and no other PSC classes may count in Area IV of the GER. The hours only count once towards overall credit hours.		
Pre-professional electives: Choose 7 credit hours from the approved list above in Literature, Humanities, Fine Arts, Mathematics, History, Science, or Social and Behavioral Sciences. These are additional classes that are not fulfilling the requirements above.		
Political Science Major Requirements		36
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 103	INTRO TO STATE & LOCAL GOVT	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PSC 330 or PSC 332	CLASSI POLITI PHILOSOPHY MODERN POLITICAL PHILOSO	
PSC 484	SENIOR SEMINAR	
PSC Elective 100+		
Choose four PSC 300+ Electives (total of 12 credit hours)		
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	
Minor Courses		18+
Elective Courses		

Elective hours vary by program, see advisor.

Total Semester Hours	120
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Students with a major in Political Science must choose a second major, a minor from another discipline, or 21 semester hours of cognate studies involving courses from two or more disciplines, of which 12 semester hours must be in upper-level courses. The cognate is designed in conjunction with an Academic Advisor. Students are advised to officially declare a major and to obtain a Program of Study by meeting with an advisor in the College of Arts, Humanities, and Social Sciences. After the Program of Study is completed, a Political Science academic advisor will be assigned to the student and will meet with him or her in the Program of Study development process. Transfer students are advised to consult with the chair of the department before scheduling courses.

JUMP Program in Political Science

Through the Joint Undergraduate Master's Program (JUMP) undergraduate students majoring or minoring in Political Science may take up to 12 semester hours of approved courses at the graduate level while completing their undergraduate degrees. These courses double-count toward both the BA or minor in Political Science and the MA program in Public Affairs and Policy, allowing students to earn their MA degree more rapidly.

Students admitted to the JUMP program continue to pay undergraduate tuition for the graduate courses that they take as part of the program, do not have to take the Graduate Record Examination (GRE), and do not have to pay a Graduate School application fee.

Students must apply and be accepted into the program, before they may take coursework that will count toward both degree programs. Students must meet the following criteria:

- Have advanced Sophomore or Junior standing
- Have a cumulative GPA of 3.25 or better
- Have completed at least nine semester hours of PSC coursework at UAH, with at least six semester hours at the 300-level or above

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
Math		3
Fine Arts		3
PSC 101	INTRO TO AMERICAN GOVERNMENT	3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
Humanities		3
PSC 103	INTRO TO STATE LOCAL GOVT	3
Science w/Lab		4
Social/Behavioral Science		3
Term Semester Hours:		16

Year 2

Fall		
WLC 101		3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
PSC 102	INTRO TO COMPARATIVE POLITICS	3
Social/Behavioral Science		3
Science w/Lab		4
Term Semester Hours:		16
Spring		
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	3
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	

Area V Courses		6
Term Semester Hours:		15
Year 3		
Fall		
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	3
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Area V Course		3
PSC 330	CLASSI POLITI PHILOSOPHY	3
or PSC 332	or MODERN POLITICAL PHILOSO	
Minor Course		3
Term Semester Hours:		15
Spring		
PSC 300+ Courses		6
Minor Courses		6
Elective		3
Term Semester Hours:		15
Year 4		
Fall		
PSC 484	SENIOR SEMINAR	3
PSC 300+ Courses		6
Minor Courses		6
Term Semester Hours:		15
Spring		
Minor Courses		6
PSC Elective		3
Electives		6
Term Semester Hours:		15
Total Semester Hours:		120

Political Science Minor

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

The student choosing a Minor in Political Science must take 21 semester hours of coursework including:

Code	Title	Semester Hours
PSC 101	INTRO TO AMERICAN GOVERNMENT	3
PSC 102	INTRO TO COMPARATIVE POLITICS	3
PSC 103	INTRO TO STATE & LOCAL GOVT	3
or PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PSC 300-level or above		12
Total Semester Hours		21

Psychology

Morton Hall 206
 Telephone: 256.824.6191
 Email: psychol@uah.edu

The Department of Psychology offers B.A. and M.A. degrees in psychology. Psychology is an exciting and interesting scientific field that concerns why people think and behave the way they do. It is a tremendously varied field and a discipline with a bright and promising future. Though relatively young, psychology is an expansive discipline that incorporates topics from other disciplines such as biology, business, engineering, and education. Studying

psychology requires students to solve problems, reason verbally and quantitatively, organize material, think critically, communicate clearly, and work effectively with others. At UAH, the psychology department is small and very student-centered. Students may take courses in clinical and counseling, experimental, social, developmental, cognitive, perceptual, biological, personality, industrial, and human factors psychology. In particular, students are required to gain an appreciation of the methods and tools used by psychologists to perform research or apply psychological principles in applied settings. Our capstone course in supervised research (PY 498) allows majors in the Psychological Sciences track to demonstrate those skills working with individual faculty members. Students in the Psychological Services track complete an internship as part of their capstone course (PY 488).

The Department of Psychology offers the following degree program at the undergraduate level:

- Psychology, BA (p. 207)

There are two tracks within the psychology degree - the Psychological Sciences Track, for those interested in research and pursuing an advanced degree within any area of Psychology, and the Psychological Services Track, for those interested in human services and pursuing a master's in counseling, social work, or a Psy.D. degree.

Mission

The focus of the Department of Psychology is threefold:

- teaching
- scholarship
- service

Consequently, the mission of the department centers upon the development of students, development of faculty and scholarly activities, and service to scholarly and professional societies as well as to appropriate communities, including those within UAH.

The Department of Psychology supports the Mission of the College of Arts, Humanities, and Social Sciences in a variety of ways. We provide close interactions between teachers and learners in our seminar courses, as well as in our research courses and internship opportunities. The Department of Psychology encourages personal and professional growth in its promotion of students' career exploration, knowledge acquisition, skill development (i.e., critical thinking, technical writing, oral communication, and statistical analyses), and valuation of diversity.

Social Science Composite for Secondary Education Majors

Students planning to teach psychology in secondary schools will need to complete the Social Science Composite which includes courses in history, psychology, sociology, political science, and economics. The psychology courses included in this composite are PY 101, PY 102, and PY 375. Students seeking certification in secondary education should contact the Education Department for specific requirements.

Major in Psychology

- Psychology, BA (p. 207)

Minor in Psychology

- Psychology (p. 217)

PY 101 - GENERAL PSYCHOLOGY I

Semester Hours: 3

Introduction to methods and research findings in the field. Topics include learning, memory, cognition, human development, personality theories, and abnormal behavior. Credit for PY 101 may be obtained by either Advanced Placement (AP) or the College Level Examination Program (CLEP).

PY 102 - APPLICATIONS IN PSYCHOLOGY

Semester Hours: 3

Introduction to applied topics in psychology, such as statistical analysis, counseling, human factors, health psychology, and industrial and organizational psychology. Career opportunities are discussed. Students are required to engage in approved experiential activities such as participating in current research studies and attending lectures. Prerequisite: PY 101.

PY 201 - LIFE-SPAN DEVELOPMENT

Semester Hours: 3

Examination of the psychological, social, and physical factors that affect human behavior and development from conception to death. Prerequisite: PY 101.

PY 300 - PSYCHOLOGICAL STATISTICS

Semester Hours: 3

Introduction to psychological statistics, with an emphasis on quantitative analysis of experimental data. Topics covered include probability, descriptive statistics, and hypothesis testing. Prerequisite: MA 107 or MA 110 or MA 112 or MA 113 or MA 115 or MA 120 or MA 171. Corequisite: PY 300L.

PY 301 - PERSONALITY

Semester Hours: 3

Examinations of various theories of personality with possible implications for research. Prerequisite: PY 102.

PY 302 - EXPERIMENTAL PSYCHOLOGY

Semester Hours: 4

Design and execution of experiments in psychology. Data analysis and manuscript preparation. Prerequisite: PY 102 and PY 300 and PY 300L or AHS 300.

PY 303 - PY RESEARCH METHODS

Semester Hours: 3

Students will learn the fundamentals of psychological research - how to form research questions and hypotheses, select an appropriate design to ethically address specific research questions, and how to critically evaluate research and findings. Student will also be taught about creating surveys, interviewing and observing participants. Prerequisites: PY 101, PY 102, PY 300 and PY 304.

PY 304 - PSYCHOLOGICAL STATISTICS LAB

Semester Hour: 1

This course is an introduction to analyzing data with computerized statistical software. This course will provide students with a familiarity of SPSS, and the abilities to analyze experimental data, read computer statistical output and write-up statistical results. Corequisite: PY 300.

PY 305 - PY RESEARCH METHODS LAB

Semester Hour: 1

Lab associated with PY 303. Covers the design and execution of quantitative and qualitative research designs, data analysis, and manuscript preparation.

PY 316 - PERCEPTION

Semester Hours: 3

Examines sensory systems and elements of perception. Topics include vision research, audition, chemical senses, and body sensations. Prerequisite: PY 102.

PY 317 - PHILOSOPHY OF MIND

Semester Hours: 3

The problem of the nature of mind and its relationship to the physical world has been a perennial concern of philosophy. This course examines, theories, and arguments concerning the nature of mind. Prerequisite: PY 102.

PY 324 - WORK DESIGN

Semester Hours: 3

Introduces the portion of the design process that uses basic principles of methods analysis and ergonomics to fit a task to the human operator. Methods analysis topics include: work measurement, job analysis, and job evaluation. Prerequisite: PY 300 or ISE 390.

PY 330 - NONVERBAL COMMUNICATION

Semester Hours: 3

Examines the diversity of specific human nonverbal behavior such as eye contact, touch, time, appearance, and distance and how these behaviors influence everyday communication experiences. Drawing on theory, students explore the practical ways verbal and nonverbal communication intersect in everyday interactions to create shared meaning. Same as CM 330. Prerequisite: PY 101.

PY 333 - PY OF ADJUSTMENT & ADAPTATION

Semester Hours: 3

PY 333 will explore psychological approaches to understanding, managing, and modifying our physical and emotional well-being. Students will learn ways to apply psychological principles and concepts to enhance coping with various issues of adulthood. Relationships with others, the environment and the self will be examined. Prerequisites: PY 101 and PY 102.

PY 375 - SOCIAL PSYCHOLOGY

Semester Hours: 3

Examination of the social influences on both individual and group behavior. Topics may include attitudes, group processes, intergroup conflict, interpersonal attraction, aggression, altruism, and impression formation. Prerequisite: PY 101 or SOC 100.

PY 399 - PROFESSIONAL DEV FOR PSY MAJOR

Semester Hour: 1

Development of skills related to graduate work and to occupations in psychology. Career and internship exploration, resume and graduate school exploration. Exposure to work and research related topics, such as teamwork and ethics. Prerequisite: PY 102.

PY 400 - INTRO TO CLINICAL & COUNSELING

Semester Hours: 3

PY 400 introduces clinical/counseling psychology and professional psychology. History of diagnosis and treatment, theoretical models in counseling, contemporary practice models, research basis of clinical/counseling psychology, empirically validated therapies, and doctoral program models are covered. Prerequisite: PY 101 and Sophomore standing or higher.

PY 402 - INDUSTRIAL & ORGANIZA PSY

Semester Hours: 3

Application of basic principles of learning, motivation, and perception to typical industrial and organizational problems. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 403 - HUMAN FACTORS PSYCHOLOGY

Semester Hours: 3

Human performance in human-technology-environment systems. Includes consideration of human capabilities and limitations as related to controls and displays. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 404 - THEORIES OF COUNSELING

Semester Hours: 3

This course is designed to introduce theories of psychotherapy and the process of psychotherapy and counseling. This course is a survey of counseling/psychotherapy models and techniques with emphasis on Empirically Validated Therapies (EVT) and traditional models with substantial support in the research and clinical literature.

PY 405 - PSYCHOPHARMACOLOGY

Semester Hours: 3

Introduction to drug classification and action with emphasis on physiological psychological interactions. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 406 - PSYCHOLOGY OF WOMEN

Semester Hours: 3

Examines theory and research in the psychological functioning of women, both in the United States and other nations. Topics include achievement and education, mental and physical health issues, and victimization of women. Open to students who have completed 15 hours of psychology. Senior Standing. Prerequisite: PY 102.

PY 407 - CROSS-CULTURAL PSYCHOLOGY

Semester Hours: 3

Examines psychological similarities and differences between members of industrialized and non-industrialized cultures. Comparisons will include development, social interaction, and perception. Open to students who have completed 15 hours of psychology. Senior Standing. Prerequisite: PY 102.

PY 408 - TEAMWORK & TEAM PROCESSES

Semester Hours: 3

This course provides an introduction to teams and teamwork processes. The foundation of the course is research-based; topics will be approached from the context of empirical research. The types of research designs that are typically used in team research are addressed. Junior Standing.

PY 409 - PSYCHOLOGY OF AGING

Semester Hours: 3

PY 409 examines psychological processes in adulthood and aging. Emphasis is placed on contemporary theories, methodological issues, and how psychological, biological, social, and environmental factors interact to predict growth, maintenance, or decline in abilities throughout adulthood and aging. Prerequisite: PY 101.

PY 410 - TASK ANALYSIS & PROTOTYPING

Semester Hours: 3

This course introduces students to methods for analyzing user actions as they interact with software and tools to complete tasks. Students apply a range of prototype techniques from fast, low-fidelity prototypes to interactive high-fidelity prototypes. Junior standing or higher.

PY 414 - HUMAN RESEARCH:LEARNING

Semester Hours: 3

Analysis of learning principles from simple relationships with animals to the complexities of human language and problem solving. Prerequisite: PY 102.

PY 415 - DEVELOPMENTAL PSYCHOLOGY

Semester Hours: 3

Examination of cognitive, psychoanalytic, ethological, behavioral, and humanistic theories of development. Prerequisites: PY 101 and PY 102 or written permission of instructor.

PY 420 - SPECIAL TOPICS

Semester Hours: 3

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 422 - INDIVIDUAL RESEARCH

Semester Hours: 3

With advice of instructor, design and execution of original experiment in psychology. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 426 - HISTORY & SYSTEMS IN PSY

Semester Hours: 3

Survey of psychological theory and experimentation regarding human behavior and mental processes from ancient times to the present. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 430 - PSYCHOMETRICS

Semester Hours: 3

History and development of psychological testing with special emphasis given to both theory and process of effective evaluation. Prerequisite: PY 300.

PY 434 - PSYCHOLOGY AND LAW

Semester Hours: 3

This seminar is a survey of the major topics represented in the field of Psychology and Law. We will focus on how psychological research can contribute to a better understanding of issues related to law. Open to students who have completed 15 hours of psychology. Prerequisite: PY 302.

PY 435 - PSYCHOPATHOLOGY

Semester Hours: 3

Survey of major psychological approaches to conceptualizing abnormal behavior, with discussion of present diagnostic categories of psychological disorders. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 436 - BIOLOGICAL PSYCHOLOGY

Semester Hours: 3

Neural and endocrinological systems underlying behavior. Open to students who have completed 15 hours of psychology. Prerequisites: (either a or b): (a) 15 hrs of PY or approval of instructor; (b) BYS 119 and BYS 120 and 6 hours of PY or approval of instructor. Same as BYS 436.

PY 437 - PSYCHOBIOLOGY STRESS & ILLNESS

Semester Hours: 3

Overview of physiological stress responses and their influence on health behavior and illness. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 480 - COGNITION

Semester Hours: 3

Information processing: how information is acquired, encoded, organized, stored, and retrieved. This process will be applied to specific areas of psychology such as language, learning, or personality. Prerequisite: PY 102.

PY 488 - PY SERVICES INTERNSHIP

Semester Hours: 1-3

This course provides a supervised experience in a professional environment for students to apply their psychological skills to projects outside the classroom, facilitate their entry into the job market in psychological services after graduation, and enhance their pre-professional experience.

Prerequisites: 18 hrs of Psychology courses; junior or senior standing; minimum 2.5 GPA in major, chair's approval.

PY 490 - READINGS IN PSYCHOLOGY

Semester Hours: 3

Supervised in-depth readings in area of particular interest to student. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 491 - SPECIAL TOPICS IN PSYCHO

Semester Hour: 1

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 492 - SPECIAL TOPICS IN PSYCHO

Semester Hours: 2

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 498 - HUMAN RESEARCH I

Semester Hours: 3

Capstone course for the PY major. Human behavior observation and/or experimentation. Students engage in data collection and analysis, and report their findings. Offered Fall Semester only. Prerequisite: PY 302.

PY 499 - HUMAN RESEARCH II

Semester Hours: 3

Continuation of PY 498. Open to students who have completed 15 hours of psychology. Prerequisite: PY 498 and approval of instructor. Offered Spring Semester only.

Psychology, BA

The program of study for a psychology major includes 35 semester hours of psychology with at least 26 semester hours numbered 300 or above.

In addition, the psychology major must be accompanied by a minor that meets the requirements designated by the selected discipline. Course work required for the major is specified below in Curriculum for Majors.

- Psychology, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Students must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	

ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	

ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Sciences Track

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, or 202		
PY 101 will share between the major and Pre-Professional area. PY 101 may not also count in Area IV of the GER. The hours only count once towards overall credit hours.		
Choose 13 additional credit hours from the above listed Literature, Fine Arts, Humanities, History, Mathematics, Sciences, or Social and Behavioral Sciences.		
Psychology Major Requirements for Psychological Sciences Track		35
PY 101	GENERAL PSYCHOLOGY I	3
PY 102	APPLICATIONS IN PSYCHOLOGY	3
PY 300	PSYCHOLOGICAL STATISTICS	3
PY 304	PSYCHOLOGICAL STATISTICS LAB	1
PY 302	EXPERIMENTAL PSYCHOLOGY	4
PY 498	HUMAN RESEARCH I	3
Select 2 courses from Group A		6
PY 316	PERCEPTION	
PY 414	HUMAN RESEARCH:LEARNING	
PY 436	BIOLOGICAL PSYCHOLOGY	
PY 480	COGNITION	
Select 2 courses from Group B		6
PY 301	PERSONALITY	
PY 375	SOCIAL PSYCHOLOGY	
PY 415	DEVELOPMENTAL PSYCHOLOGY	
PY 435	PSYCHOPATHOLOGY	
PY Elective 300+		3
PY Elective 200+		3
Minor Courses		18+
Elective Courses		
Elective courses vary by program, see advisor.		
Total Semester Hours		120

Services Track

Code	Title	Semester Hours
Area V: Pre-Professional Area		19
WLC 101, 102, 201, or 202		

PY 101 will share between in the major and Pre-Professional Area. PY 101 may not also count in Area IV of the GER. The hours only count once towards overall credit hours.

PHL 102	INTRO TO ETHICS	
SOC 100	INTRO TO SOCIOLOGY	
Choose 7 additional credit hours from the above listed Fine Arts, Humanities, Literature, Mathematics, Sciences, History, and Social and Behavioral Sciences. The above listed SOC 100 and PHL 102 may count in Areas IV and II of the general education, respectively. If they count in other areas of the general education, then 13 additional hours will be needed in this area instead of 7.		
Psychology Major Requirements for Psychological Services Track		35
PY 101	GENERAL PSYCHOLOGY I	3
PY 102	APPLICATIONS IN PSYCHOLOGY	3
PY 300	PSYCHOLOGICAL STATISTICS	3
PY 304	PSYCHOLOGICAL STATISTICS LAB	1
PY 303	PY RESEARCH METHODS	3
PY 305	PY RESEARCH METHODS LAB	1
PY 488	PY SERVICES INTERNSHIP	3
Basis of Behavior Core - Choose 3 classes from the following lists, one from three different rows.		9
Psychological Basis of Behavior: PY 414, PY 415, or PY 480		
Individual Basis of Behavior: PY 435 or PY 301		
Interpersonal Basis of Behavior: PY 333 or PY 316		
Social Basis of Behavior: PY 375 or SOC 319		
Psychological Services Core - Choose 2 classes from the following lists, one from two different rows.		6
PY 404	THEORIES OF COUNSELING	
PY 407	CROSS-CULTURAL PSYCHOLOGY	
or SOC 330	RACE AND ETHNICITY	
PY 409	PSYCHOLOGY OF AGING	
or PY 330	NONVERBAL COMMUNICATION	
PY 430	PSYCHOMETRICS	
Any Basis of Behavior Class not taken as part of that requirement		
Psychological Services Electives - Choose 1 class from the following options:		3
Any Basis of Behavior Class not previously selected		
Any PY Services Core Class not previously selected		
PY 436, PY 437, PY 420, PY 405, or PY 400		
Minor Courses		18+
Elective Courses		
Elective courses vary by program, see advisor.		
Total Semester Hours		120

Psychological Sciences Track

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
PY 101	GENERAL PSYCHOLOGY I	3
Math		3
FYE 101	CHARGER SUCCESS	1
Fine Arts		3
Term Semester Hours:		13
Spring		
PY 102	APPLICATIONS IN PSYCHOLOGY	3
EH 102	COLLEGE WRITING II	3
Science w/Lab		4
Social/Behavioral Science		3

Humanities or Fine Arts		3
Term Semester Hours:		16
Year 2		
Fall		
WLC 101		3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
PY 300	PSYCHOLOGICAL STATISTICS	3
PY 304	PSYCHOLOGICAL STATISTICS LAB	1
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Science w/Lab		4
Term Semester Hours:		17
Spring		
EH 208	READINGS LITERATURE/CULTURE 2	3
or EH 207	or READINGS LITERATURE/CULTURE I	
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
PY 302	EXPERIMENTAL PSYCHOLOGY	4
Social/Behavioral Science		3
Area V Course		3
Term Semester Hours:		16
Year 3		
Fall		
Area V Courses		6
Minor Course		3
PY Group A Course		3
PY Group B Course		3
Term Semester Hours:		15
Spring		
PY Group B Course		3
PY 300+ Elective		3
Minor Course		3
Area V Courses		6
Term Semester Hours:		15
Year 4		
Fall		
PY Group A Course		3
Minor Courses		6
Elective		2
PY 498	HUMAN RESEARCH I	3
Term Semester Hours:		14
Spring		
PY Elective		3
Minor Courses		9
Elective		2
Term Semester Hours:		14
Total Semester Hours:		120

Psychological Services Track

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
PY 101	GENERAL PSYCHOLOGY I	3
Math		3
FYE 101	CHARGER SUCCESS	1
Fine Arts		3
Term Semester Hours:		13

Spring

PY 102	APPLICATIONS IN PSYCHOLOGY	3
EH 102	COLLEGE WRITING II	3
Science w/ Lab		4
Social/Behavioral Science		3
Humanities or Fine Arts		3
Term Semester Hours:		16

Year 2

Fall		
WLC 101		3
EH 207	READINGS LITERATURE/ CULTURE I	3
or EH 208	or READINGS LITERATURE/ CULTURE 2	
PY 300	PSYCHOLOGICAL STATISTICS	3
PY 304	PSYCHOLOGICAL STATISTICS LAB	1
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
Science w/ Lab		4
Term Semester Hours:		17

Spring

EH 208	READINGS LITERATURE/ CULTURE 2	3
or EH 207	or READINGS LITERATURE/ CULTURE I	
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
PY 303	PY RESEARCH METHODS	3
PY 305	PY RESEARCH METHODS LAB	1
Social/Behavioral Science		3
Area V Course		3
Term Semester Hours:		16

Year 3

Fall		
Area V Courses		6
Minor Course		3
Basis of Behavior Courses		6
Term Semester Hours:		15
Spring		
Basis of Behavior Course		3
PY Services Core Course		3
Minor Course		3

Area V Courses		6
Term Semester Hours:		15
Year 4		
Fall		
PY Services Core Course		3
PY Services Elective Course		3
Minor Courses		6
Elective		2
Term Semester Hours:		14
Spring		
PY 488	PY SERVICES INTERNSHIP	3
Minor Courses		9
Elective		2
Term Semester Hours:		14
Total Semester Hours:		120

Students in the Psychology, BA program have the choice of two tracks: Psychological Services or Psychological Science. For more information on each, please see below:

- Psychology, BA - Psychological Services Track (p. 216)
- Psychology, BA - Psychological Sciences Track (p. 214)

Psychology, BA - Psychological Science Track

The requirements for the Psychological Science track mirror those of the Psychology, BA.

Note: Students will declare their track (Science or Services) after completing PY 101, PY 102, PY 300, and PY 304. To continue in the Psychological Science track, a student must have an average GPA of 3.0 or higher in those core courses and no grade lower than a "C-" in any core course. This GPA requirement (3.0) is slightly higher than for the Psychological Services track (2.5).

Code	Title	Semester Hours
Freshman Composition		6
EH 101	COLLEGE WRITING I	3
EH 102	COLLEGE WRITING II	3
Humanities and Fine Arts		12
12 hours of Humanities and Fine Arts chosen from the following categories:		
Fine Arts: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARS 160	DRAWING: FOUNDATIONS	3
MU 100	INTRO TO MUSIC LITERATURE	3
TH 122	THEATRE APPRECIATION	3
Literature: Choose one		3
EH 207	READINGS LITERATURE/CULTURE I	3
EH 208	READINGS LITERATURE/CULTURE 2	3
EH 242	MYTHOLOGY	3
Humanities and Fine Arts: Choose two		6
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	3
ARH 101	ARH SUR: RENAISSANCE-MODERN	3
ARH 103	ARH SUR: WORLD ART	3
ARS 160	DRAWING: FOUNDATIONS	3
MU 100	INTRO TO MUSIC LITERATURE	3

TH 122	THEATRE APPRECIATION	3
CM 113	Intro to Rhetorical Communication	3
Any WLC 100 or 200 level ¹		
PHL 101	INTRODUCTION TO PHILOSOPHY	3
PHL 102	INTRO TO ETHICS	3
PHL 103	INTRODUCTION TO LOGIC	3
PHL 150	TECH, SCIENCE & HUMAN VALUES	3
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	3
Mathematics and Natural Sciences		11
Mathematics: Choose one		3
MA 107	ALGEBRA WITH APPLICATIONS	3
MA 110	FINITE MATHEMATICS	3
MA 112	PRECALCULUS ALGEBRA	3
MA 113	PRECALCULUS TRIGONOMETRY	3
MA 115	PRECALCULUS ALGEBRA & TRIG	4
MA 120	MATH PROFESSIONAL APPLICATIONS	3
MA 171	CALCULUS A	4
Natural Sciences: Choose two		8
AES 103	ENVIRONMENTAL EARTH SCIENCE	4
AES 104	WEATHER & CLIMATE CHANGE	4
AST 106	EXPLORING THE COSMOS I	4
AST 107	EXPLORING THE COSMOS II	4
BYS 119	PRINCIPLES OF BIOLOGY	3
BYS 121	LABORATORY	1
BYS 120	ORGANISMAL BIOLOGY	3
BYS 122	ORGANISMAL BIOLOGY LAB	1
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
PH 100	CONCEPTUAL PHYSICS	4
PH 101	GENERAL PHYSICS I	4
PH 102 & PH 114	GENERAL PHYSICS II and GENERAL PHYSICS LAB I	5
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
PH 113/116	GEN PHYSICS W/CALC III	3
History and Social and Behavioral Sciences		12
12 hours of History and Social and Behavioral Sciences chosen from the following categories:		
History: Choose one sequence		6
HY 103 & HY 104	WORLD HISTORY TO 1500 and WORLD HISTORY SINCE 1500	6
HY 221 & HY 222	UNITED STATES TO 1877 and UNITED STATES SINCE 1877	6
Social and Behavioral Sciences: Choose two		6
ECN 142	PRINC OF MACROECONOMICS	3
ECN 143	PRINC OF MICROECONOMICS	3
GS 200	GLOBAL SYSTEMS AND CULTURES	3
PSC 101	INTRO TO AMERICAN GOVERNMENT	3
PSC 102	INTRO TO COMPARATIVE POLITICS	3
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	3

PY 101	GENERAL PSYCHOLOGY I	3
PY 201	LIFE-SPAN DEVELOPMENT	3
SOC 100	INTRO TO SOCIOLOGY	3
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	3
SOC 103	INTRO TO CRIMINOLOGY	3
Pre-Professional		
Pre-Professional Electives		19
Choose from the above categories in Fine Arts, Humanities, Social and Behavioral Sciences, History, Mathematics, and Science. A maximum of 9 credit hours in Mathematics and Science can be applied toward this area.		
Psychology Courses		
PY 101	GENERAL PSYCHOLOGY I	3
PY 102	APPLICATIONS IN PSYCHOLOGY	3
PY 300 & PY 304	PSYCHOLOGICAL STATISTICS and PSYCHOLOGICAL STATISTICS LAB	4
PY 302	EXPERIMENTAL PSYCHOLOGY	4
PY 498	HUMAN RESEARCH I	3
Select two courses from Group A		6
PY 316	PERCEPTION	3
PY 414	HUMAN RESEARCH:LEARNING	3
PY 436	BIOLOGICAL PSYCHOLOGY	3
PY 480	COGNITION	3
Select two courses from Group B		6
PY 301	PERSONALITY	3
PY 375	SOCIAL PSYCHOLOGY	3
PY 415	DEVELOPMENTAL PSYCHOLOGY	3
PY 435	PSYCHOPATHOLOGY	3
PY Elective 300+		3
PY Elective 200+		3
Minor Courses		21
Elective Courses		
Elective courses vary by program, see advisor.		
Total Semester Hours		120

Psychology, BA - Psychological Services Track

Psychological Services Track

Must have a PY GPA of 2.5 or higher to be eligible for the Psychological Services track.

Code	Title	Semester Hours
Required Classes		
PY 101	GENERAL PSYCHOLOGY I	3
PY 102	APPLICATIONS IN PSYCHOLOGY	3
PY 300	PSYCHOLOGICAL STATISTICS	3
PY 304	PSYCHOLOGICAL STATISTICS LAB	1
PY 303	PY RESEARCH METHODS	3
PY 305	PY RESEARCH METHODS LAB	1
PY 488	PY SERVICES INTERNSHIP	3
Basis of Behavior Core		9
PY Services Core		6
PY Services Elective (300+ Level)		3
Total Major Hours		35

Basis of Behavior Core (9 hrs)

Choose three classes from this list. You must choose from three different rows. For example, you cannot take PY 414, PY 415, and PY 480 to meet this requirement.

1. Psychological Basis of Behavior: PY 414, PY 415, or PY 480
2. Individual Basis of Behavior: PY 435 or PY 301
3. Interpersonal Basis of Behavior: PY 316 or PY 333
4. Social Basis of Behavior: PY 375 or SOC 319

PY Services Core (6 hrs)

Choose two classes from this list. You may not choose a class taken in fulfillment of another requirement of the Psychology major, and you must choose from two different areas. For example, you cannot take both PY 407 and SOC 330 to meet this requirement.

1. PY 404
2. PY 407 or SOC 330
3. PY 409 or PY 330
4. PY 430
5. Any Basis of Behavior Class not taken as part of that requirement

PY Services Electives

1. Any Basis of Behavior option not previously selected
2. Any PY Services Core class not previously selected
3. PY 436, PY 437, PY 420, PY 405, PY 400

Students in the Psychological Services track are expected to complete PHL 102 and SOC 100 as part of their Charger Foundations courses. These courses will apply toward Area V requirements for students in this track and will not be applied to other areas in the Charger Foundations (i.e., double dipping of these courses within the Charger Foundations is not allowed).

Psychology Minor

A minor in psychology consists of 21 semester hours of psychology courses of which 12 semester hours must be numbered 300 or above. Course work required for the minor is specified below.

Curriculum for Minors

Code	Title	Semester Hours
PY 101	GENERAL PSYCHOLOGY I	3
PY 102	APPLICATIONS IN PSYCHOLOGY	3
Select one course from Group A:		3
Group A:		
PY 316	PERCEPTION	
PY 414	HUMAN RESEARCH:LEARNING	
PY 480	COGNITION	
PY 436	BIOLOGICAL PSYCHOLOGY	
Select one course from Group B:		3
Group B:		
PY 301	PERSONALITY	
PY 375	SOCIAL PSYCHOLOGY	
PY 415	DEVELOPMENTAL PSYCHOLOGY	
PY 435	PSYCHOPATHOLOGY	
PY electives (6 semester hours must be 300-level or above)		9
Total Semester Hours		21

Sociology

Morton Hall 206
Telephone: 256.824.6190

Email: soc@uah.edu

Sociology is a fascinating subject which explores patterns and trends in human behavior, society, and culture. Sociology takes a broad and holistic view of the contexts in which individuals, groups, organizations, and institutions operate. This understanding is indispensable to analysis and decision-making in a wide range of social settings and the development of thoughtful and engaged citizenship. Sociologists bring scientific tools and perspectives to understand causes and consequences of contemporary social issues and problems, and analyze the impact of social policies on groups and organizations. The best sociological analyses combine a focus on important details with analyses about how the details relate to "the big picture." A B.A. in Sociology provides a broad foundation for further studies in law, social work, social policy, psychology, criminology, or public health. Analytical and social science research skills prepare students for careers in market research, human services, government, health care, and law. The B.A. Sociology program at UAH emphasizes the development of both *academic* and *applied skills* that can be useful in a wide range of work settings.

The Department of Sociology offers the following degree programs:

- Sociology, BA (p. 221)
- Sociology Minor (p. 218)

Mission

We are committed to providing all students with the knowledge and skills that derive from a sociological perspective. Our curriculum encompasses core areas in the discipline with courses in sociological theory, social inequality, social institutions, social change and sociological methodology. Students may use the sociological perspective in pursuing further studies in the discipline, at work in diverse settings, and as thoughtful and involved members of their communities. Our instructional mission is enhanced by faculty with active research agendas, who explore a variety of social processes and apply to these studies a variety of research techniques. When they bring their expertise to bear on social issues, the faculty also serve the University and the community at large.

The UAH Department of Sociology offers the B.A. with a major in sociology and a minor in sociology.

For more information on the field of sociology and the UAH Sociology Department, please consult our webpage, www.uah.edu/sociology (<http://www.uah.edu/sociology/>).

Major in Sociology

- Sociology, BA (p. 221)

Minors in Sociology

- Sociology (p. 225)

SOC 100 - INTRO TO SOCIOLOGY

Semester Hours: 3

An introduction to the critical and scientific study of society, culture, social institutions and social change. Illuminates the social and cultural context of our lives and is useful for exploring contemporary social issues, problems and change in society.

SOC 102 - ANALYSIS OF SOCIAL PROBLEMS

Semester Hours: 3

Application of the sociological perspective to understanding the "social problems process." Among other things, the course addresses how some troubling social conditions come to be identified as "problems" while others do not, as well as how some "solutions" (e.g. policies) are implemented while others are not.

SOC 103 - INTRO TO CRIMINOLOGY

Semester Hours: 3

A broad introduction to the sociological study of crime and the criminal justice system in the United States exploring sources of crime, measurement of crime, theories of crime, and the criminal justice system.

SOC 206 - MARRIAGE AND FAMILY

Semester Hours: 3

Explores family forms and functions across history and across cultures. Students will learn how the family affects and is affected by other social institutions, recent trends in the American family, the contexts in which marriage and families evolve, and key inequalities within and between families. Prerequisite: SOC 100.

SOC 301 - RESEARCH METHODS

Semester Hours: 3

The object of this course is for students to be able to read, interpret, and explain scientific research in social science. Course covers key elements and process of sociological research methods, both qualitative and quantitative. Prerequisite: SOC 100.

SOC 302 - SOCIOLOGICAL THEORY

Semester Hours: 3

This course traces the development of major trends of sociological theory, past and present, and major theoretical problem areas. It also addresses how the socio-historical context within which the texts were written influences the issues and ideas expressed. Prerequisite: SOC 100.

SOC 303 - STATISTICS/SOCIAL SCIENCES

Semester Hours: 3

Introduction to the basic quantitative data analysis techniques used by social scientists. Explore the ways researchers use statistics to examine and test ideas about the social world. In the lab, students learn how to use the statistical software SPSS to analyze social science datasets. Prerequisite: One of the following math courses: MA 107, MA 110, MA 112, MA 113, MA 115, MA 120, MA 171.

SOC 304 - STATISTICS LAB

Semester Hour: 1

SOC 306 - SOCIOLOGY OF GENDER

Semester Hours: 3

Explores how social relationships create, structure and reinforce gender differences and inequalities. Students will learn about the social construction of gender, gender socialization, gender roles, and gender inequalities in income, poverty, occupation, and violence. Prerequisite: SOC 100.

SOC 307 - SOCIOLOGY OF LAW

Semester Hours: 3

This course examines the relationship between law and society from a variety of theoretical perspectives. Topics include the social organization of legal institutions, cultural meanings of law, and social interactions among different actors in the legal context (police, lawyers, judges, legislators, etc). Prerequisite: SOC 100.

SOC 309 - SOCIOLOGY OF SEXUALITY

Semester Hours: 3

A research based study of sexuality focusing on how it is constructed, experienced, challenged, and changed within society. Upon completion of the course students will be able to recognize, understand, and articulate how society both structures and is structured by sexuality. Prerequisite: SOC 100.

SOC 313 - QUALITATIVE RESEARCH METHODS

Semester Hours: 3

Teaches ethnography, interviewing, focus groups, and content analysis. Includes an in-class data analysis practicum. Upon completion, students will be able to understand, articulate, and assess qualitative methods as well as independently collect, analyze, and report findings from qualitative data. Prerequisite: SOC 100.

SOC 319 - DEVIANCE & SOCIAL CONTROL

Semester Hours: 3

Examines several approaches to studying deviant behavior and its social control, with emphasis on the social construction of deviance and societal reactions to it. The focus is generally on deviation and control in the U.S. Prerequisite: SOC 100.

SOC 320 - SOCIOLOGY OF RELIGION

Semester Hours: 3

Study of religion as a social phenomenon. The course examines sociological theories of religious behavior, religious beliefs, religion as a social institution, religious organization, new religious movements, and religion and social change. Prerequisite: SOC 100 or instructor permission.

SOC 325 - SOCIOLOGY OF EDUCATION

Semester Hours: 3

This course examines education systems and policies from a sociological perspective. We ask what and how students learn, the function of schools in society, results of recent policy decisions, and how educational systems interact with political, economic, cultural and family institutions. Prerequisite: SOC 100.

SOC 330 - RACE AND ETHNICITY

Semester Hours: 3

Examines the historical relationship between race, ethnicity and economic class/opportunity; and the social construction of ethnicity and race. The emphasis is on race and ethnicity in the U.S. with some discussion of international issues. Prerequisite: SOC 100.

SOC 340 - SPECIAL TOPICS

Semester Hours: 1-3

Nontraditional topics of current sociological interest. Title of course and number of credit hours when offered will appear in course schedule along with prerequisites necessary for admission to course. May be taken more than once for credit as long as subtitles differ. Prerequisite: SOC 100.

SOC 350 - MONEY AND POWER

Semester Hours: 3

This course examines how access to money and power shape life outcomes. Students will learn about factors shaping historical and current patterns of economic inequality in the U.S., including labor markets, corporations, immigration, and changing social welfare policies. Along the way, we explore who has the power to make decisions and shape access, opportunities for social mobility, the roles of gender and race, and patterns of privilege and oppression.

SOC 369 - ENVIRONMENTAL SOCIOLOGY

Semester Hours: 3

Examines the ways in which society and the natural environment interact and shape each other. This course engages with the major debates in the field of environmental sociology in order to better understand the challenges and options humans face as we head further into global environmental crisis. Prerequisite: SOC 100.

SOC 375 - SOCIAL PSYCHOLOGY

Semester Hours: 3

Fundamental principles of group processes, social influence, and group structure. Development of group solidarity, cohesion, intergroup conflict and cooperation, communication, leadership, opinion, propaganda, and suggestion. Prerequisites: SOC 100 or PY 101.

SOC 382 - WHITE COLLAR CRIME

Semester Hours: 3

This course explores white collar crime in depth, considering both how it is defined and theoretical perspectives about why it occurs. Broadly, the course considers occupational crimes (e.g. embezzlement & employee theft), corporate crimes (e.g., securities fraud & price fixing), and political crimes (e.g., state corruption & repression). Students also discuss its costs to society, identifying both perpetrators and victims. Prerequisites: SOC 100 or SOC 103.

SOC 384 - DRUGS AND SOCIETY

Semester Hours: 3

This course focuses on understanding drug use from sociological and criminological perspectives; it examines the prevalence of drug use, the impact of drug use on individuals and society, and society's response to drugs. Prerequisites: SOC 100 or SOC 103.

SOC 390 - READINGS & INDIVIDUAL RES

Semester Hours: 3

Supervised readings or in-depth research or both in area of specialized interest to student or instructor. May be taken twice for credit with advisor's approval. Prerequisite: SOC 100.

SOC 395 - COMMUNITY SERVICES INTERNSHIP

Semester Hours: 3

An experiential-learning course for students who envision working in social service organizations. Internship opportunity is initiated by student and course includes an academic component of readings and assignments agreed upon by student, organizational representative and the Internship Coordinator. Prerequisite: SOC 100.

SOC 431 - ADVANCED SPECIAL TOPICS

Semester Hours: 3

Special topics of current sociological interest. Course title, credit hours and prerequisites will appear in course schedule. May be taken more than once for credit as long as subtitles differ. Different from SOC 340 Special Topics in terms of level of expectations and/or, prerequisites. Prerequisite: SOC 100.

SOC 495 - SENIOR CAPSTONE SEMINAR

Semester Hours: 3

This course allows senior sociology majors to transition from being consumers of sociological knowledge, to being producers and practitioners. Students can choose one of two tracks for this course: completing either an independent research project or an internship at a local social service organization.

Prerequisite: SOC 301.

Sociology, BA

Students who major in sociology must complete 34 semester hours of sociology courses. There are *six* required courses (SOC 100, SOC 301, SOC 302, SOC 303, SOC 304, SOC 495), and 21 of the 34 semester hours must be at the 300-level or above. Sociology majors planning their course of study should contact the department to learn about the timing and frequency of required course offerings.

- Sociology, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC	

or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY

11-12

3-4

8

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences***12**

History

3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences

6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, or 202		
One SOC 1xx class will share with the Sociology major and Pre-Professional area. This class may not also count in Area IV above. The hours only count once towards overall credit hours.		
Choose 13 additional hours from the categories above Literature, Humanities, Fine Arts, Mathematics, Lab Science, and Social and Behavioral Sciences.		
Sociology Major Requirements		34

SOC 100	INTRO TO SOCIOLOGY	3
SOC 301	RESEARCH METHODS (Offered Fall Only)	3
SOC 302	SOCIOLOGICAL THEORY (Offered Spring only)	3
SOC 303	STATISTICS/SOCIAL SCIENCES	3
SOC 304	STATISTICS LAB	1
SOC 495	SENIOR CAPSTONE SEMINAR (SOC 301 is a pre-requisite)	3
Choose three SOC Electives at the 300+ Level		9
Choose three SOC Electives at Any Level		9
Minor Courses		18+
Elective Courses		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

Additional Information

As with all students in the College of Arts, Humanities, and Social Sciences, our students will initiate a Program of Study through the College of Arts, Humanities, and Social Sciences Academic Advising Office but they are encouraged to consult with the Sociology Department Chair or any member of our faculty.

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
Math		3
SOC 100	INTRO TO SOCIOLOGY	3
Fine Arts		3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	3
Humanities and Fine Arts		3
Science w/Lab		4
Area V Course		3
Term Semester Hours:		16

Year 2

Fall		
SOC 206	MARRIAGE AND FAMILY	3
Literature		3
History		3
Science w/Lab		4
Humanities and Fine Arts		3
Term Semester Hours:		16
Spring		
SOC 103	INTRO TO CRIMINOLOGY	3
Science w/Lab		4
EH 207 or EH 208	READINGS LITERATURE/CULTURE I or READINGS LITERATURE/CULTURE 2	3
WLC 101		3
Social/Behavioral Science		3
Term Semester Hours:		16

Year 3

Fall		
HY 103 or HY 104	WORLD HISTORY TO 1500 or WORLD HISTORY SINCE 1500	3

Area V Course		3
SOC 301	RESEARCH METHODS (Offered Fall Only)	3
SOC 300+		3
Minor Courses		3
Term Semester Hours:		15
Spring		
SOC 302	SOCIOLOGICAL THEORY (Offered Spring Only)	3
SOC 303	STATISTICS/SOCIAL SCIENCES	3
SOC 304	STATISTICS LAB	1
Minor Courses		6
Elective		3
Term Semester Hours:		16
Year 4		
Fall		
SOC 300+		3
SOC 300+		3
Minor Courses		6
Elective		3
Term Semester Hours:		15
Spring		
SOC 495	SENIOR CAPSTONE SEMINAR (SOC 301 is a pre-requisite)	3
Minor Courses		6
Electives		4
Term Semester Hours:		13
Total Semester Hours:		120

Sociology Minor

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

A student developing a minor in sociology with a major in another discipline must complete 21 semester hours of sociology courses:

Code	Title	Semester Hours
SOC 100	INTRO TO SOCIOLOGY	3
Select 6 semester hours of courses at any level in Sociology		6
Select 12 semester hours of courses at level 300 or above in Sociology		12
Total Semester Hours		21

Note(s):

Sociology courses may also be used in conjunction with courses from other disciplines to form a cognate area of study. Such a program should be developed with the advice of the sociology faculty and must be approved by the Associate Dean.

Theatre

102 ROB
Telephone: 256.824.6436
Email: theatre@uah.edu

Merge your academic interests and your passion for the creative arts with a degree in theatre from UAH! We have four areas of specialization: Performance, Technical, Dramaturgy, and Film and Media Arts. Each is designed to prepare you for a smooth transition into the world of professional theatre – something to which our successful, active theatre alumni can attest.

Whether you choose to focus solely on theatre or combine it with a second major, you'll enjoy all the benefits that our dynamic Theatre Program has to offer, including:

- Personalized attention, thanks to our low student-to-faculty ratio and our welcoming, progressive environment
- Hands-on learning, whether it's performing in a mainstage production or interning with a professional theatre company
- Networking opportunities, as a result of the strong relationships UAH Theatre has with community and regional partners
- Student community with welcoming, like-minded folks who love all aspects of theatre

But most important of all, your theatre degree will help you master the skills that employers value most, from public speaking and problem solving to creative thinking and collaboration. The end result is a diverse, well-rounded educational foundation that will give you a competitive edge no matter what career path you choose to pursue.

The Department of Theatre offers the following degree programs:

- Theatre, BA (p. 230)
- Theatre, BA with an emphasis in Film and Media Arts (FMA) (p. 234)
- Theatre Minor (p. 235)
- Theatre, BA (p. 230)
- Theatre, BA with an Emphasis in Film and Media Arts (FMA) (p. 234)
- Film and Media Arts Minor (p. 184)
- Music, Stage, and Screen Minor (p. 185)
- Theatre Minor (p. 235)

TH 100 - STAGECRAFT

Semester Hours: 3

This course will provide students with the basic knowledge of stage construction, its practices, and implementation. Additional hands-on experience will be gained by working outside of class hours in the scene shop assisting in the construction and installation of main-stage productions.

TH 101 - THEATRE PRACTICUM

Semester Hour: 1

TH 110 - VOICE AND DICTION

Semester Hours: 3

Examines and practices methods of adjusting vocal articulation, tone, pitch, pace, volume, resonance, and pronunciation for improving or changing voice quality and accents. Understanding the vocal instrument prepares students for acting and for positive self-presentation in the real world.

TH 115 - INTRO STAGE MOVEMENT

Semester Hours: 3

This course explores the movement skills necessary for the actor with emphasis on physical training and practical application in realistic and abstract performance efforts.

TH 122 - THEATRE APPRECIATION

Semester Hours: 3

Introductory survey of theater art focusing on understanding performance components and genres. Satisfies fine arts elective. Offered every term.

TH 123 - INTRO TO FILM STUDIES

Semester Hours: 3

Students develop a critical understanding of how the 'language' of film uses image and sound to produce meaning and pleasure, and to elicit audience response in order to generate what constitutes meaning. Concentrating on film form and style, the course teaches students to engage cinema in relation to narrative, mise-en-scene, cinematography, editing, sound, and genre.

TH 150 - SCRIPT ANALYSIS

Semester Hours: 3

This course is a hands-on look into script analysis, using plays from the western theatre canon, some of which will be produced by UAH Theatre during the school year. There will be individual and group work in script analysis, culminating in a full script analysis project at the end of the semester.

TH 155 - SURVEY MUSICAL THEATRE

Semester Hours: 3

This class will enrich the student's experience of and knowledge about musical theatre. By understanding musicals as products of specific cultural values and historical contexts, the student will become more sensitive to their meanings and how to interpret and perform them.

TH 180 - READER'S THEATRE

Semester Hours: 3

This course is designed to explore play text within the theatre. Students will work first hand with plays and present staged readings. This course is open to all majors.

TH 200 - PLAYWRITING

Semester Hours: 3

Students will create original short, theatrical works as they examine and experiment with multiple narrative techniques. Students will work independently and collaboratively to experience the full process of drafting, hearing the words aloud, and revising original works. Works will be read aloud; student and faculty feedback will be given.

TH 201 - THEATRE PRACTICUM

Semester Hour: 1

UAH Theatre offers students a number of opportunities to work on and crew productions. Practicum allows students to earn required class credit while engaged in these activities.

TH 210 - WRITING FOR VISUAL MEDIA

Semester Hours: 3

This course offers an introduction to scriptwriting for a variety of media: commercials, PSAs, fiction films, documentaries, and the web. The art of "visual writing" is emphasized. Students produce scripts on their own while contributing to and critiquing the work of their fellow classmates. Prerequisites: EH 101, EH 102.

TH 221 - ACTING

Semester Hours: 3

This course explores the foundations of acting through an understanding of basic techniques including scene study, script analysis, improvisation, and physical and vocal work. Offered every semester.

TH 225 - ELEMENTS OF THEATRE PRODUCTION

Semester Hours: 3

This course is designed to give students the opportunity to explore the design components of theatre including scenery, costumes, lighting and sound through class projects and practical application. Offered every Spring. Prerequisite: TH 122 or permission of instructor.

TH 250 - STAGE MAKEUP

Semester Hours: 3

Course will cover basic stage makeup application techniques for both the actor and the makeup artist. Course will also explore 3D makeup techniques and character analysis for makeup design. Theatre Majors only, or permission of instructor.

TH 251 - COSTUME FUNDAMENTALS

Semester Hours: 3

The purpose of this course is to learn how to function in the costume shop. Students will learn basic hand and machine sewing skills for constructing and completing a costume. Students will also gain an understanding of basic pattern making skills and how costumes are created for Theatre. Prerequisite: TH 225.

TH 260 - VIDEO PRODUCTION

Semester Hours: 3

This course provides students with an opportunity to experience the process of video production through creative projects designed to stimulate the visual artist, summon the storyteller and create the video editor.

TH 275 - DOCUMENTARY FILM

Semester Hours: 3

Through readings, screenings, discussion, and practice, students will become acquainted with various approaches to documentary film and video in theory and practice. Focus will be on the ethical, rhetorical, and creative choices that form conventions and modes documentary filmmakers have developed in their practice and critics have used to describe and analyze how documentaries communicate. Students will experiment with some of these choices by working on their own short documentary projects.

TH 301 - THEATRE PRACTICUM

Semester Hour: 1

UAH Theatre offers students a number of opportunities to work on and crew productions. Practicum allows students to earn required class credit while engaged in these activities.

TH 321 - ACTING II

Semester Hours: 3

Acting II is a Stanislavsky-based class which will further the growth of skills learned in Acting I, as it applies to more complex characterization. Class work will include sensory exercises, relaxation, concentration, imagination, improvisation, character analysis, and scene work. Prerequisite: TH 221.

TH 322 - THEATRE HISTORY I

Semester Hours: 3

Explores the development of theater art from its origins to French neoclassicism and Moliere with particular emphasis on the Greeks, Shakespeare, and his contemporaries. Offered every two years.

TH 323 - THEATRE HISTORY II

Semester Hours: 3

Explores the development of theatre art from the 17th to the 20th century, with particular emphasis on the English Restoration, early Realism and the American masters. Offered every two years.

TH 324 - MODERN AMERICAN THEATRE

Semester Hours: 3

This course is a seminar-style study of current American theatre and plays written in the 21st century. To that end, we will read and write about 8 current American plays, and other articles from theatre journals. At the end of the class, students will understand and be able to explicate in writing, spoken presentation, and/or through creative activity, the present, and possible future impacts of current American theatre on American society.

TH 325 - COMIC BOOK THEATRE

Semester Hours: 3

"Boom! Kapow! Bravo! The Comic Book and Contemporary Theatre" takes a deep dive into current theatre performance and how playwrights are transforming comic books and other popular genre art into theatre that engages and surprises audiences.

TH 330 - STAGE MANAGEMENT

Semester Hours: 3

This course concerns the role of the Stage Manager in theatrical productions. It focuses on the stage manager's duties, responsibilities, and procedures from pre-production to post-production. It explores the functions of various members of the production team and how the stage manager's interaction with each member of this team varies. It considers the role of the stage manager as the hub of communication for a production. Prerequisites: TH 122 and TH 225.

TH 334 - HISTORY OF AMERICAN CINEMA

Semester Hours: 3

Investigates the American cinema as a cultural artifact by studying cultural and historical context of representations, audiences, aesthetics and industry practices in American cinema from its beginning (1895) to present.

TH 340 - SPECIAL TOPICS IN THEATRE

Semester Hours: 3

Topics announced in advance. Representative topics include playwriting, directing, and ancient Greek theatre. May be repeated twice for credit.

TH 355 - SCENE DESIGN

Semester Hours: 3

This class introduces students to the many facets, both artistic and engineering-based, of scene design for the theatre including: history, research, design, stage, direction, technical direction, scenic art and props. Prerequisites: TH 100 and TH 225.

TH 360 - VIDEO PRODUCTION II

Semester Hours: 3

Advanced Video Production is an intensive video production course designed to integrate film theory and practice. Students will learn the technical and artistic necessities of the film and video medium. Through immersive lectures, workshops, projects, and exercises, students will gain valuable experience and know-how in this exciting, fast-paced, communication medium. Prerequisite: TH 260.

TH 365 - COSTUME DESIGN

Semester Hours: 3

The purpose of this course is to learn the intricacies of costume design and how it fits in the full vision of a Theatrical Production. The importance of the artist's vision and the practical use must all be addressed when designing a show. Each student will learn to develop their own style and voice as an artist and how to work in the theatre. Prerequisite: TH 225.

TH 375 - SOUND DESIGN

Semester Hours: 3

This course offers an exploration of the sound design process for the theatre. Script analysis and creating a design concept will underline the structure of the course. The students will have the opportunity to use a DAW (digital audio workstation) and various computer software programs including QLab. The course includes an overview of digital audio data structures, "plug-ins", processing, equalization and standard solutions for interfacing external devices with a computer. The students will participate in two productions and gain valuable hands-on experience. There will be an emphasis on the creative possibilities of sound design for the theatre and multimedia. Prerequisites: TH 225.

TH 390 - TEACHING THEATRE

Semester Hours: 3

This course is designed to help students develop the skills required to coach and direct student actors, focusing on best practices in teaching the fundamentals of directing, including various assessment rubrics and adapting activities to different age groups. The course emphasizes learning by doing. Prerequisite: TH 221.

TH 400 - INTERNSHIP IN THEATRE

Semester Hours: 0.5-3

Practical experience in the workplace allows the student to apply principles, theories, and skills learned in Theatre Program courses. Arranged by the student with consent of the director of the Theatre Program, the student meets regularly with a faculty advisor, keeps a log of activities, and submits a report on the internship. Prerequisite: Senior Standing with TH major, and permission of instructor.

TH 401 - INTERNSHIP IN VIDEO

Semester Hours: 3

Students receive practical, production experience in the engagement of a creative project where they are able to apply principles, theories, and production skills learned from previous video courses and/or other course work.

TH 421 - ACTING III

Semester Hours: 3

This class explores non-realist acting techniques, as a way to expand understanding of different performance and period styles. Students will work in historical periods from the Italian and Elizabethan renaissances and more contemporary styles. Prerequisite: TH 321.

TH 425 - THEATRE MAINSTAGE

Semester Hours: 1-3

This course provides students with an opportunity to experience the complete process of theatre including such elements as: direction, acting, design, tech and management. The class will produce two full length plays. Students will be auditioned to determine roles in each production. Some will serve critical production roles such as design, direction, and management while others will act in one or both productions. In certain instances, a student actor may appear in both plays. Offered every semester. Can be taken two semesters for maximum credit of 6 hours.

TH 431 - SENIOR CAPSTONE THEATRE

Semester Hours: 3

Senior capstone course involving either a scholarly project or an approved communication-intensive internship combined with a comprehensive examination. Prerequisites: senior standing with TH major, and approval of instructor.

TH 465 - DIRECTING

Semester Hours: 3

In this course, students will develop their skills in theatrical directing and production using script analysis, visual composition, design, and communication. Students will complete hands-on directing scene projects, supplemented with written analysis, dramaturgical research, and design images. Prerequisites: TH 150, and TH 322 or TH 323.

TH 475 - PORTFOLIO

Semester Hours: 3

This course explores the current state of the entertainment industry's job market. Students from design, performance, video production, and dramaturgy build and refine the materials they will need to be employed within the entertainment industry. Prerequisites: TH 421, or TH 390, or TH 355, or TH 322 & TH 323.

TH 480 - DRAMATURGY

Semester Hours: 3

Study of the fundamental skills and practical collaborative processes needed to dramaturg a work of theater. Prerequisites: TH 150 and either TH 322 or TH 323.

Theatre, BA

The Theatre major includes a 21-hour core of courses, three areas of 12 hour specialization, and courses that may be selected for six hours of elective credit, totaling a 39-hour major.

- Theatre, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the CAHS Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	

or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY

11-12

3-4

8

BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre Professional		19
WLC 101, 102, 201, or 202		
TH 221/180 and TH 225/260 may be shared with Theatre major and Pre-professional area. The hours only count once towards overall credit hours.		
Pre-Professional Electives: Choose 10 additional electives from Areas II, III, and IV listed above.		
Theatre Major Requirements		39
TH 100	STAGECRAFT	3
TH 150	SCRIPT ANALYSIS	3
TH 221	ACTING	3

or TH 180	READER'S THEATRE	
TH 225	ELEMENTS OF THEATRE PRODUCTION	3
or TH 260	VIDEO PRODUCTION	
TH 322	THEATRE HISTORY I	3
or TH 323	THEATRE HISTORY II	
or TH 334	HISTORY OF AMERICAN CINEMA	
TH 425	THEATRE MAINSTAGE	3
TH 431	SENIOR CAPSTONE THEATRE	3
Choose one Specialization Area: ²		12
Performance		
TH 180	READER'S THEATRE	
TH 321	ACTING II	
TH 390	TEACHING THEATRE	
TH 400	INTERNSHIP IN THEATRE	
TH 421	ACTING III	
TH 465	DIRECTING	
Technical		
TH 250	STAGE MAKEUP	
TH 251	COSTUME FUNDAMENTALS	
TH 330	STAGE MANAGEMENT	
TH 355	SCENE DESIGN	
TH 365	COSTUME DESIGN	
TH 375	SOUND DESIGN	
TH 400	INTERNSHIP IN THEATRE	
Dramaturgy		
EH 461	SHAKESPEARE I	
EH 462	SHAKESPEARE II	
TH 323	THEATRE HISTORY II	
or TH 322	THEATRE HISTORY I	
Major Electives (Choose 2) ¹		6
TH 101	THEATRE PRACTICUM	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
TH 200	PLAYWRITING	
TH 201	THEATRE PRACTICUM	
TH 301	THEATRE PRACTICUM	
TH 340	SPECIAL TOPICS IN THEATRE	
TH 324	MODERN AMERICAN THEATRE	
TH 475	PORTFOLIO	
EH 465	DRAMATIC LITERATURE	
EH 461	SHAKESPEARE I	
EH 462	SHAKESPEARE II	
TH 480	DRAMATURGY	
Any TH classes not taken in core or emphasis		
Any ARS or MU class that has been approved by TH advisor		
Minor Courses		18+
Electives		
Elective hours vary by program, please see advisor.		
Total Semester Hours		120

¹ 21 Hours at the 300+ level are required in the TH minor.

BA in Theatre with an Emphasis in Film and Media Arts (FMA)

Coming soon. The program is pending approval.

FMA 123 - INTRO TO FILM STUDIES

Semester Hours: 3

Students develop a critical understanding of how the 'language' of film uses image and sound to produce meaning and pleasure, and to elicit audience response in order to generate what constitutes meaning. Concentrating on film form and style, the course teaches students to engage cinema in relation to narrative, mise-en-scene, cinematography, editing, sound, and genre.

FMA 210 - WRITING FOR VISUAL MEDIA

Semester Hours: 3

This course offers an introduction to scriptwriting for a variety of media: commercials, PSAs, fiction films, documentaries, and the web. The art of "visual writing" is emphasized. Students produce scripts on their own while contributing to and critiquing the work of their fellow classmates. ed, communication medium. Prerequisites: EH 101, EH 102.

FMA 260 - VIDEO PRODUCTION

Semester Hours: 3

This course provides students with an opportunity to experience the process of video production through creative projects designed to stimulate the visual artist, summon the storyteller and create the video editor.

FMA 334 - HISTORY OF AMERICAN CINEMA

Semester Hours: 3

Investigates the American cinema as a cultural artifact by studying cultural and historical context of representations, audiences, aesthetics and industry practices in American cinema from its beginning (1895) to present.

FMA 340 - SP TOPICS FILM & MEDIA ARTS

Semester Hours: 3

Topics announced in advance. Representative topics include Cinematography, Editing, Broadcast and so forth. This can be taken twice for credit.

FMA 360 - VIDEO PRESENTATION

Semester Hours: 3

Advanced Video Production is an intensive video production course designed to integrate film theory and practice. Students will learn the technical and artistic necessities of the film and video medium. Through immersive lectures, workshops, projects, and exercises, students will gain valuable experience and know-how in this exciting, fast-paced, communication medium. Prerequisite: TH 260.

FMA 375 - DOCUMENTARY FILM PRODUCTION

Semester Hours: 3

Through readings, screenings, discussion, and practice, students will become acquainted with various approaches to documentary film and video in theory and practice. Focus will be on the ethical, rhetorical, and creative choices that form conventions and modes documentary filmmakers have developed in their practice and critics have used to describe and analyze how documentaries communicate. Students will experiment with some of these choices by working on their own short documentary projects.

FMA 401 - INTERNSHIP IN VIDEO

Semester Hours: 3

Students receive practical, production experience in the engagement of a creative project where they are able to apply principles, theories, and production skills learned from previous video courses and/or other course work.

FMA 431 - VIDEO CAPSTONE

Semester Hours: 3

senior Capstone in Video is required of all students in the Film and Media Arts minor. A final video project is submitted and approved by the FMA director and can include feature film, documentary, video marketing and video for social media to name a few. Project to represent the culmination of learning and skill garnered from the program. Prerequisites: FMA 260 and FMA 360.

FMA 460 - STUDIO BROADCAST PRODUCTION

Semester Hours: 3

This course provides students with an opportunity for learning pre-production, production and post-production of television and live event programs using field shooting and multi-camera production techniques of a TV studio. Class activities include operation of cameras, control panels, lights, and audio in directing and producing non-dramatic programs such as sports, journalism/news, demonstrations, video gaming, commercials, and interviews. Prerequisite: FMA 260.

Theatre Minor

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

The minor requires 24 semester hours, including a 18 semester hour core, and 6 semester hours of electives as listed below:

Code	Title	Semester Hours
Theatre Requirements		
TH 100	STAGECRAFT	3
TH 150	SCRIPT ANALYSIS	3
TH 221	ACTING	3
TH 225	ELEMENTS OF THEATRE PRODUCTION	3
TH 322	THEATRE HISTORY I	3
or TH 323	THEATRE HISTORY II	
TH 425	THEATRE MAINSTAGE	3
Electives (Select 2) ¹		6
TH 110	VOICE AND DICTION	
TH 260	VIDEO PRODUCTION	
TH 321	ACTING II	
TH 322	THEATRE HISTORY I	
TH 323	THEATRE HISTORY II	
TH 324	MODERN AMERICAN THEATRE	
TH 330	STAGE MANAGEMENT	
TH 334	HISTORY OF AMERICAN CINEMA	
TH 340	SPECIAL TOPICS IN THEATRE	
TH 355	SCENE DESIGN	
TH 360	VIDEO PRODUCTION II	
TH 365	COSTUME DESIGN	
TH 375	SOUND DESIGN	
TH 390	TEACHING THEATRE	
TH 400	INTERNSHIP IN THEATRE	
TH 421	ACTING III	
TH 475	PORTFOLIO	
Total Semester Hours		24

¹ 12 Hours at the 300+ level are required in the minor

Appropriate special topics courses may also be used as electives when approved by Mr. David Harwell.

Questions about this program should be directed to Mr. David Harwell, harweld@uah.edu.

User Experience Minor

<https://www.uah.edu/ahs/departments/ux-program> (<https://www.uah.edu/ahs/departments/ux-program/>)

Morton Hall, Room 261

Dr. Ryan Weber

Associate Professor, Director of Business and Technical Writing

ryan.weber@uah.edu

User experience (UX) refers to a user's engagement with a product, technology, or service. According to usability.gov (<http://usability.gov/>), "User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations." For a product to develop a positive user experience, it must meet actual users' needs, help users fulfill their goals, provide a usable interface, and evoke positive emotions. In the past two decades, UX has become increasingly central to the success of businesses and organizations.

The UX minor brings together several different disciplines to create a robust, rigorous, and multifaceted program. These various disciplines and courses will come together in service of providing students a broad, applicable UX education. Students in the UX minor will meet the following learning objectives:

- Identify core theoretical principles and research methods of user experience.
 - Apply UX research methods to analyze the behavior, needs, goals, frustrations, and emotions of real-world users.
 - Design and prototype solutions for the problems identified through user experience research.
 - Evaluate the effectiveness of products, technologies, and services in meeting user needs and providing a satisfying experience.
 - Develop recommendations for improving the UX of new products, prototypes, and existing products, technologies, and services.
- 25% of the minor must be earned at UAH
 - A minimum 2.0 GPA is required in the minor

Code	Title	Semester Hours
Technical Course (one of the following):		3
IS 210	INTRO COMP PROG IN BUS	
ARS 332	GRAPHIC DESIGN: WEB DESIGN	
CS 100 Level		
Statistics Course (one of the following):		3-4
SOC 303 & SOC 304	STATISTICS/SOCIAL SCIENCES and STATISTICS LAB	
ISE 390	PROB & ENGR STATISTICS I	
MA 385	INTRO TO PROBABILITY & STATIST	
MSC 288	BUSINESS STATISTICS II	
PY 300 & PY 304	PSYCHOLOGICAL STATISTICS and PSYCHOLOGICAL STATISTICS LAB	
All of the following courses:		
ARS 230	GRAPHIC DESIGN: INTRODUCTION	3
EH 301	TECHNICAL WRITING	3
PY 403 or ISE 403	HUMAN FACTORS PSYCHOLOGY HUMAN FACTORS PSYCHOLOGY	3
CM 452 or EH 452	USER CENTERED DESIGN USER CENTERED DESIGN	3
PY 410	TASK ANALYSIS & PROTOTYPING	3
EH 442 or CM 542	USABILITY STUDIES USABILITY STUDIES	3
Total Hours:		24-25

Women's, Gender, and Sexuality Studies Minor

Morton Hall 278M

256.824.6190

Dr. Chad Thomas, Director

The Women's, Gender, and Sexuality Studies program brings together courses and faculty from several colleges of the university to provide an interdisciplinary experience leading to a minor in Women's, Gender, and Sexuality Studies. As an area of scholarship, the principal focus is on the contributions, perspectives, and experiences of women in all areas of human endeavor, including the status, portrayal, or achievements of women in

areas such as art, history, literature, science, business, engineering, and medicine. It also promotes greater understanding of gender and of sexuality as fundamental categories of meaning, examining the pervasive and often unacknowledged ways that gender and/or sexuality shape and change our social institutions, individual knowledge, and interpersonal relationships. While the classes included as Women's, Gender, and Sexuality Studies courses may be offered in various departments, the minor organizes these courses in a coherent structure such that the sum of the experiences offers a more comprehensive insight into the discipline of Women's, Gender, and Sexuality Studies than the individual courses provide on their own.

A minor in Women's, Gender, and Sexuality Studies consists of 21 semester hours, including one required course (WGS 200), three core courses, and three additional core or elective courses as shown in the following table. Core courses must include at least 3 semester hours of humanities and 3 semester hours of social sciences classes listed below. Students must also complete a portfolio and portfolio conference during their final semester at UAH. A student interested in minoring in Women's and Gender Studies should contact the director of the program for advising.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor
- 12 of the 21 semester hours must be at the 300-level or higher

Code	Title	Semester Hours
WGS Minor Requirements		21
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	3
Core Courses 3 courses required from the following, at least 3 hours in each category: ^{1,2,3}		9
Humanities (at least 3 hours)		
ARH 320	SPECIAL TOPICS IN ART HY (Women in Antiquity OR Modern Women Artists) ³	
EH 414	CREATIVE NONFICTION WRITING	
EH 418	REP TEXTS-WOMEN WRITERS	
EH 440	SPECIAL TOPICS ENGLISH STUDIES (Native Women's Literature) ³	
EH 461	SHAKESPEARE I	
EH 462	SHAKESPEARE II	
EH 465	DRAMATIC LITERATURE	
HY 367	WOMEN IN U.S. HISTORY	
HY 390	GENDER & SEXUALITY MODERN EURO	
HY 483	GENDER & SEXUALITY LATIN AM	
PHL 335	FEMINIST PHILOSOPHY	
TH 323	THEATRE HISTORY II	
TH 324	MODERN AMERICAN THEATRE	
WLC 204	INTERNATIONAL CINEMA (Performing Gender & Sexuality) ³	
Social Sciences (at least 3 hours)		
PSC 440	REGIONAL STUDIES (African Politics OR Latin American Politics) ³	
PY 406	PSYCHOLOGY OF WOMEN	
SOC 206	MARRIAGE AND FAMILY	
SOC 306	SOCIOLOGY OF GENDER	
SOC 309	SOCIOLOGY OF SEXUALITY	
Additional Core Courses		
SFM 385	WOMEN IN SPORT	3
WGS Advanced Courses (may substitute for Core courses)		
WGS 340	SPECIAL TOPICS ⁵	
WGS 499	INDEPENDENT STUDY ⁵	
Elective Course ⁴		9
Select up to 3 additional core courses or up to 3 elective courses from the following:		
ARH 103	ARH SUR: WORLD ART	
ARH 309	CONTEMPORARY ART & ISSUES	
ARH 310	NINETEENTH CENTURY ART	
BYS 437	PSYCHOBIOLOGY STRESS & ILLNESS	
CM 330	NONVERBAL COMMUNICATION	
or PY 330	NONVERBAL COMMUNICATION	
CM 333	INTERPERSONAL COMMUNICATION	

CM 433	DARK SIDE INTERPERSONAL COMM
CM 455	COMMUNICATION & CULTURE
EH 242	MYTHOLOGY
EH 403	LITERARY CRITICISM & THEORY
EH 430	THE AMERICAN NOVEL
EH 434	SCIENCE FICTION
EH 438	AFRICAN AMERICAN LITERATURE
EH 451	ARTHURIAN ROMANCE
HY 370	TECHNOLOGY IN AMERICAN HISTORY
HY 383	FOOD AND WORLD HISTORY
HY 473	U.S.-LATIN AMERICAN RELATIONS
HY 482	COMPTV SLAVERY & ABOLITION
HY 484	LATIN AMERICAN HIST THRU FILM
HY 485	NAZI GERMANY AND THE HOLOCAUST
PHL 102	INTRO TO ETHICS
PHL 303	CONTINENTAL PHILOSOPHY
PHL 337	PHILOSOPHY OF RACE
PHL 403	ADV MORAL PHILOSOPHY (Care Ethics) ⁴
PSC 438	CONTEMPORARY POLITICAL THOUGHT
or PHL 438	CONTEMPORARY POLITICAL THOUGHT
PY 375	SOCIAL PSYCHOLOGY
or SOC 375	SOCIAL PSYCHOLOGY
PY 437	PSYCHOBIOLOGY STRESS & ILLNESS
or BYS 437	PSYCHOBIOLOGY STRESS & ILLNESS
SOC 330	RACE AND ETHNICITY
TH 322	THEATRE HISTORY I

¹ No more than 6 semester hours within a single subject area.

² No more than two of the courses applied to the minor can be from the student's major field of study. One course may count towards both the major and the minor.

³ Approved Special Topics courses may count as "Core" courses toward the minor. Current approved Special Topics "Core" courses are: ARH 320, EH 440, PSC 440, SOC 340, and WLC 204.

⁴ Approved Special Topics courses may count as "Elective" courses toward the minor. Current approved Special Topics "Elective" courses are: PHL 403

⁵ WGS 340 or WGS 499 may count as core courses in various subject areas if these courses carry 3 semester hours credit.

Note:

New courses may be added to this list when approved for inclusion by the Women's, Gender, and Sexuality Studies Program Advisory Committee. For current listing of approved Women's, Gender, and Sexuality Studies courses and for additional information on the Women's, Gender, and Sexuality Studies program, please see our website at www.uah.edu/la/departments/womens-studies/programs/minor (<http://www.uah.edu/la/departments/womens-studies/programs/minor/>)

World Languages and Cultures

Morton Hall 278
Telephone: 256.824.1022
Email: wlc@uah.edu

The World Languages and Cultures Department offers the following degree programs:

- Foreign Languages, BA (p. 246)
- Foreign Languages, BA - Foreign Language and International Trade Concentration (p. 251)
- Foreign Language and Global Engagement Certificate (p. 261)
- Global Professional Pathways Certificate (p. 260)

Introduction

The acquisition of a second language, and through it an understanding of another country's culture, is a rich academic experience for all students, not only in the arts, humanities, and social sciences, but also in business, education, nursing, the natural sciences, and engineering. Knowing how to communicate effectively in another language significantly enhances one's career opportunities and contributions as a citizen. This page provides an overview of the academic offerings of the Department of World Languages and Cultures.

Mission Statement

The Department of World Languages and Cultures is dedicated to teaching students the language skills and cultural knowledge necessary for succeeding in today's multilingual world of cultural diversity, global markets, political interdependence, and international scientific and cultural collaboration.

Within the B.A. in Foreign Languages, students may choose French, German, Russian, or Spanish as a focus language, and may also concentrate in Foreign Language and International Trade in cooperation with the College of Business. Students can pursue foreign language teacher certification (<http://catalog.uah.edu/undergrad/colleges-departments/education/curriculum-instruction/foreign-language/>) in French, German, or Spanish in conjunction with the College of Education, and they may minor in any of the four focus languages, or take Arabic or Japanese at the introductory and intermediate levels. The department also offers the Certificate in Foreign Language and Global Engagement, which focuses on language acquisition and Global Studies, and the Global Professional Pathways Certificate, which allows students to explore language and careers through study or internship abroad and a professional portfolio. The department also serves nursing and pre-health students by offering Spanish for Medical Professionals periodically at the introductory level.

In addition, the department assists students in identifying study abroad opportunities and domestic and international internships that give students cultural and professional experience that greatly enhances their career opportunities after graduation. World Languages and Cultures also sponsors language clubs and extracurricular activities that contribute to the university's rich campus life.

The department offers an integrated curriculum comprising the teaching of linguistic proficiency and the promotion of a critical awareness of other cultures. Faculty use traditional methods as well as varied media and new technologies to engage students with world languages, literature, and film in their historical, social, and interdisciplinary contexts. World Languages and Cultures faculty promote academic pluralism by fostering a variety of interpretive and pedagogical approaches, and by virtue of their commitment to the highest standards in teaching, research, and service, they aim to uphold and further strengthen the national and international standing of UAH.

Languages Offered

Arabic, French, German, Japanese, Russian, Spanish

The Department of World Languages and Cultures offers a B.A. in Foreign Languages. A student may choose a focus language of French, German, Russian, or Spanish, and may also concentrate in Foreign Language and International Trade or pursue teaching certification. Arabic and Japanese cannot be taken as majors or minors, but can be taken to satisfy the language requirement for the B.A. degree or as electives. Certificate programs are available in our four major languages and may also be available in Arabic and Japanese depending on current course offerings.

General Education Requirements and Placement Procedures

Three semester hours of credit in one foreign language are required for most of the B.A. degrees. Most introductory language sequences begin in the fall semester, but more limited offerings of 101 level courses are available in spring and summer for students who need to complete their requirements.

Placement Procedures

Students with no previous language instruction or experience are placed into WLC 101, while students with some level of instruction or experience are placed in a variety of ways depending on their previous coursework or skill level. Since placement procedures vary, all students with previous experience are encouraged to contact the WLC department chair or a WLC faculty member in their language of interest to ask about placement. Students can schedule an appointment to take the standardized Web Cape International Foreign Language Placement Exam by emailing the WLC department at wlc@uah.edu. The exam is computerized and can be taken for a small fee (around \$10), payable to the exam website by card. **NOTE: By itself, the placement exam does not grant any academic credit.** Departmental credit is only granted to students in WLC major, minor, or certificate programs who have completed additional WLC coursework at the appropriate level.

Read below for placement information related to various populations of students.

Native or Near-Native Speakers: Native and near-native speakers are those who have achieved fluency in a language and who have had formal education in that language. Native or near-native speakers of a foreign language may not take introductory and intermediate courses in that language, but are welcome to take upper level courses in their language or introductory level courses in another language. Students in this category should make an appointment with the department (wlc@uah.edu) to take a placement exam. Native or near-native speakers pursuing a major or minor in their language may earn up to six (6) hours of departmental credit that will satisfy the Charger Foundations language requirement for the B.A. Students in this category who are only interested in taking one lower-level language course to complete the Charger Foundations language requirement should enroll in a language other than the one(s) in which they are fluent.

Heritage Speakers: Heritage speakers are classified as individuals who have grown up speaking a language, but who have little or no formal education in that language. Most heritage speakers should not enroll in introductory level courses in their heritage language. Students in this category must still take a minimum of three (3) additional semester hours of foreign language course work to complete Charger Foundations requirements for the B.A., and should make an appointment with the department (wlc@uah.edu) to take a placement exam. Heritage speakers pursuing a major or minor in their heritage language and who place above the WLC 102 level may earn up to six (6) hours of departmental credit that will satisfy the Charger Foundations language requirement for the B.A.

Transfer Students with College Language Credits: Students who have earned language credits at another college or university will be placed into the next logical course in the language sequence. If students have questions about whether they are prepared for the level of language courses at UAH, they are encouraged to contact a faculty member in their language of interest for guidance, or to take the placement exam to help confirm their level. Placement exams can be scheduled by emailing the WLC department at wlc@uah.edu.

High School Experience: All students with high school language experience below the Advanced Placement level are encouraged to take the placement exam to confirm placement. Placement exams can be scheduled by emailing the WLC department at wlc@uah.edu. Typically, students with 0-2 units of high school foreign language study will be placed in WLC 101, while students with 3-4 units will be placed in WLC 102 or 201. A minimum grade of C is required for a unit to be counted. Regardless of placement, students must take a minimum of three (3) additional semester hours of foreign language course work to complete Charger Foundations requirements for the B.A. If an interval of two years or more occurs between the study of a language in high school and continuation of that language in college, placement levels may be adjusted downward.

Advanced Placement, International Baccalaureate (IB), and CLEP Examinations: The University will award credit to students who have earned a score of three or higher on **Advanced Placement (AP) Program** examinations of the College Entrance Examination Board according to the following scale:

- Score of 3: 6 semester hours credit (i.e. through WLC 102, 3 semester hours each course)
- Score of 4: 9 semester hours credit (through WLC 201)
- Score of 5: 12 semester hours credit (through WLC 202)

The AP credit thus awarded will satisfy Charger Foundations Requirements for the B.A. and count toward a major, minor, or certificate. However, it will be recorded without grades or quality points and will not be included in the calculation of the grade point average.

Students scoring 5-7 on the **Higher Level IB exam** will be awarded 15 hours of credit (through WLC 301). Currently, there is no placement procedure for students who have completed the **Standard Level IB exam**. Those students should take the Web Cape International Foreign Language Placement Exam and consult with a faculty member to determine placement. Placement exams can be scheduled by emailing the WLC department at wlc@uah.edu.

Students with **CLEP examination** scores in French, German, or Spanish will be granted credit for WLC 101, or WLC 101 and 102 depending on their score, following the UAH course placement guidelines (<https://catalog.uah.edu/undergrad/policies-procedures/course-placement-credit-examination/>) for CLEP exams.

Students Planning to Earn a WLC Major, Minor, or Certificate: If students wish to major or minor in French, German, Russian, or Spanish, they may take the Web Cape placement exam to test out of a maximum of twelve (12) hours of course work (WLC 101, 102, 201, 202).

After taking the Web Cape exam, students majoring or minoring in a world language will be placed in an appropriate higher level language course. They will receive credit hours, without grade/quality points, for the two (2) highest elementary/intermediate language courses as is appropriate. If students test out of more than six (6) hours, the remaining courses will be waived from the major or minor requirements with no credit hours granted.

Students pursuing a WLC certificate may also test out of language courses, but no courses may be waived from certificate requirements. This means that if a student tests out of more than the six (6) hours allowed for department credit, the remaining hours must be fulfilled by substituting other relevant courses to be determined in consultation with an advisor.

All students, irrespective of language background and placement, must take all remaining upper-level coursework to complete the major, minor, or certificate.

Majors in World Languages and Cultures

- Foreign Languages, BA (p. 246)
- Foreign Languages, BA - Foreign Language and International Trade Concentration (p. 251)

Minors in Foreign Languages and Literatures

- Foreign Language (p. 258)
- Latin American Studies (p. 259) (p. 259)

- Foreign Language and Global Engagement Certificate (p. 261)
- Global Professional Pathways Certificate (p. 260)

WLC 101A - INTRO FOREIGN LANG I: ARABIC

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101F - INTRO FOREIGN LANG I:FRENCH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101G - INTRO FOREIGN LANG I:GERMAN

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101J - INTRO FOREIGN LANG I:JAPANESE

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101MS - INTRO TO MEDICAL SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts with special emphasis on medical terminology and tasks. Conducted in the target language. No prerequisites.

WLC 101R - INTRO FOREIGN LANG I:RUSSIAN

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101S - INTRO FOREIGN LANG I: SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 102A - INTRO FOREIGN LANG II: ARABIC

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101A or placement by exam.

WLC 102F - INTRO FOREIGN LANG II:FRENCH

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101F or placement by exam.

WLC 102G - INTRO FOREIGN LANG II:GERMAN

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101G or placement by exam.

WLC 102J - INTRO FOREIGN LANG II:JAPANESE

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101J or placement by exam.

WLC 102MS - INTRO TO MEDICAL SPANISH II

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts with special emphasis on medical terminology and tasks. Conducted in the target language. Prerequisites: WLC 101MS.

WLC 102R - INTRO FOREIGN LANG II:RUSSIAN

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101R or placement by exam.

WLC 102S - INTRO FOREIGN LANG II:SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101S or placement by exam.

WLC 199A - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in world languages, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199F - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199G - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199J - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in world languages, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199R - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199S - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 201A - INTERM FOREIGN LANG I: ARABIC

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102A or placement by exam.

WLC 201F - INTERM FOREIGN LANG:FRENCH

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102F or placement by exam.

WLC 201G - INTERM FOREIGN LANG:GERMAN

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102G or placement by exam.

WLC 201J - INTERM FOREIGN LANG: JAPANESE

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102J or placement by exam.

WLC 201R - INTERM FOREIGN LANG:RUSSIAN

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102R or placement by exam.

WLC 201S - INTERM FOREIGN LANG:SPANISH

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102S or placement by exam.

WLC 202A - INTERM FOREIGN LANG II: ARABIC

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201A or placement by exam.

WLC 202F - INTERM FOREIGN LANG II:FRENCH

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201F or placement by exam.

WLC 202G - INTERM FOREIGN LANG II:GERMAN

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201G or placement by exam.

WLC 202J - INTERM FORGN LANG II:JAPANESE

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201J or placement by exam.

WLC 202R - INTERM FOREIGN LANG II:RUSSIAN

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201R or placement by exam.

WLC 202S - INTERM FOREIGN LANG II:SPANISH

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201S or placement by exam.

WLC 204 - INTERNATIONAL CINEMA

Semester Hours: 3

Analyzes foreign language films centered on changing themes, such as family, religion, children, society, and the arts. Conducted in English. No prerequisite.

WLC 301A - CONVERSATION: ARABIC

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202A or placement by instructor.

WLC 301F - CONVERSATION:FRENCH

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202F or placement by exam.

WLC 301G - CONVERSATION:GERMAN

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202G or placement by exam.

WLC 301J - CONVERSATION:JAPANESE

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202J or placement by exam.

WLC 301R - CONVERSATION:RUSSIAN

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202R or placement by exam.

WLC 301S - CONVERSATION:SPANISH

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202S or placement by exam.

WLC 302F - COMPOSITION:FRENCH

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202F or placement by exam.

WLC 302G - COMPOSITION:GERMAN

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202G or placement by exam.

WLC 302R - COMPOSITION:RUSSIAN

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202R or placement by exam.

WLC 302S - COMPOSITION:SPANISH

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202S or placement by exam.

WLC 303F - FOREIGN LANG LIFE & PROF:FRENC

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202F or by placement.

WLC 303G - FOREIGN LANG LIFE & PROF:GERMA

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202G or by placement.

WLC 303R - FOREIGN LANG LIFE & PROF:RUSSI

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202R or by placement.

WLC 303S - FOREIGN LANG LIFE & PROF:SPANI

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202S or by placement.

WLC 304F - CULTURE:FRENCH

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301F or WLC 302F.

WLC 304G - CULTURE:GERMAN

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301G or WLC 302G.

WLC 304R - CULTURE:RUSSIAN

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301R or WLC 302R.

WLC 304S - CULTURE:SPANISH

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301S or WLC 302S.

WLC 305F - INTRO TO LITERATURE:FRENCH

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301F or WLC 302F.

WLC 305G - INTRO TO LITERATURE:GERMAN

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301G or WLC 302G.

WLC 305R - INTRO TO LITERATURE:RUSSIAN

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301R or WLC 302R.

WLC 305S - INTRO TO LITERATURE:SPANISH

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301S or WLC 302S.

WLC 404F - TEXTS & CONTEXTS:SEM LIT:FRENC

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301F or WLC 302F.

WLC 404G - TEXTS & CONTEXTS:SEM LIT/GERMA

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301G or WLC 302G.

WLC 404R - TEXTS & CONTEXTS:SEM LIT:RUSSI

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301R or WLC 302R.

WLC 404S - TEXTS & CONTEXTS:SEM LIT:SPANI

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301S or WLC 302S.

WLC 409 - SR SEM: COMPARATIVE LANG & CUL

Semester Hours: 3

The senior seminar will explore a special topic relevant to all world languages and cultures; examples include but are not limited to education, family, fine arts, music, food, and politics. Students will compare their own language and culture to other languages and cultures, develop connections to other languages and disciplines, and cultivate an understanding of and appreciation for world cultures and communities with the aim of understanding that there are multiple ways of viewing the world. This is the capstone course for majors who opt out of completing an international internship (WLC 410). Prerequisites: Two 300-level WLC courses and senior standing.

WLC 410 - INT'L INTERN:COMP LANG/CULT

Semester Hours: 3-6

Capstone for majors, offering practical experience in commercial or public organizations domestically or abroad. Conducted in English. Prerequisite: WLC 303.

WLC 499F - INDEPENDENT STUDY:FRENCH

Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202F.

WLC 499G - INDEPENDENT STUDY:GERMAN

Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202G.

WLC 499R - INDEPENDENT STUDY:RUSSIAN

Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202R.

WLC 499S - INDEPENDENT STUDY:SPANISH

Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202S.

Foreign Language, BA

The major is comprised of twelve courses of which ten will be taught in the focus language (French, German, Russian, Spanish) and two (WLC 204 and WLC 409/WLC 410) will utilize English for in-class discussions.

- Foreign Language, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH,
- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	

or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II

BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III
Area IV: History and Social and Behavioral Sciences*	
History	
HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Sciences	
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, and 202 will share with the World Language and Culture major and the Pre-Professional area. These classes may not also count in Area II above. The hours only count once towards overall credit hours.		
Pre-Professional Electives: Choose 7 additional credit hours from the above listed Fine Arts, Humanities, Literature, Mathematics, Sciences, History, and Social and Behavioral Sciences.		
Foreign Language Major Requirements		36

WLC 101F or WLC 101G or WLC 101R or WLC 101S or WLC 101MS	INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:RUSSIAN INTRO FOREIGN LANG I: SPANISH INTRO TO MEDICAL SPANISH	3
WLC 102F or WLC 102G or WLC 102R or WLC 102S or WLC 102MS	INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:RUSSIAN INTRO FOREIGN LANG II:SPANISH INTRO TO MEDICAL SPANISH II	3
WLC 201F or WLC 201G or WLC 201R or WLC 201S	INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG:RUSSIAN INTERM FOREIGN LANG:SPANISH	3
WLC 202F or WLC 202G or WLC 202R or WLC 202S	INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN INTERM FOREIGN LANG II:RUSSIAN INTERM FOREIGN LANG II:SPANISH	3
WLC 204	INTERNATIONAL CINEMA	3
WLC 301F or WLC 301G or WLC 301R or WLC 301S	CONVERSATION:FRENCH CONVERSATION:GERMAN CONVERSATION:RUSSIAN CONVERSATION:SPANISH	3
WLC 302F or WLC 302G or WLC 302R or WLC 302S	COMPOSITION:FRENCH COMPOSITION:GERMAN COMPOSITION:RUSSIAN COMPOSITION:SPANISH	3
WLC 303F or WLC 303G or WLC 303R or WLC 303S	FOREIGN LANG LIFE & PROF:FRENC FOREIGN LANG LIFE & PROF:GERMA FOREIGN LANG LIFE & PROF:RUSSI FOREIGN LANG LIFE & PROF:SPANI	3
WLC 304F or WLC 304G or WLC 304R or WLC 304S	CULTURE:FRENCH CULTURE:GERMAN CULTURE:RUSSIAN CULTURE:SPANISH	3
WLC 305F or WLC 305G or WLC 305R or WLC 305S	INTRO TO LITERATURE:FRENCH INTRO TO LITERATURE:GERMAN INTRO TO LITERATURE:RUSSIAN INTRO TO LITERATURE:SPANISH	3
WLC 404F or WLC 404G or WLC 404R or WLC 404S	TEXTS & CONTEXTS:SEM LIT:FRENC TEXTS & CONTEXTS:SEM LIT/GERMA TEXTS & CONTEXTS:SEM LIT:RUSSI TEXTS & CONTEXTS:SEM LIT:SPANI	3
WLC 409 or WLC 410	SR SEM: COMPARATIVE LANG & CUL INT'L INTERN:COMP LANG/CULT	3-6

Minor Courses**18+****Elective Courses**

Elective hours vary by program, see advisor.

Total Semester Hours**120**

Year 1

		Semester Hours
Fall		
WLC 101F	INTRO FOREIGN LANG I:FRENCH	3
or WLC 101G	or INTRO FOREIGN LANG I:GERMAN	
or WLC 101R	or INTRO FOREIGN LANG I:RUSSIAN	
or WLC 101S	or INTRO FOREIGN LANG I: SPANISH	
or WLC 101MS	or INTRO TO MEDICAL SPANISH	
EH 101	COLLEGE WRITING I	3
FYE 101	CHARGER SUCCESS	1
Math		3
Fine Arts		3

Term Semester Hours: 13

Spring

WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	or INTRO FOREIGN LANG II:GERMAN	
or WLC 102R	or INTRO FOREIGN LANG II:RUSSIAN	
or WLC 102S	or INTRO FOREIGN LANG II:SPANISH	
or WLC 102MS	or INTRO TO MEDICAL SPANISH II	
EH 102	COLLEGE WRITING II	3
Humanities		3
Social/Behavioral Science		3
Science w/Lab		4

Term Semester Hours: 16

Year 2

Fall		
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	or INTERM FOREIGN LANG:GERMAN	
or WLC 201R	or INTERM FOREIGN LANG:RUSSIAN	
or WLC 201S	or INTERM FOREIGN LANG:SPANISH	
Science w/Lab		4
Social/Behavioral Science		3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	

Term Semester Hours: 16

Spring

WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	or INTERM FOREIGN LANG II:GERMAN	
or WLC 202R	or INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	or INTERM FOREIGN LANG II:SPANISH	
WLC 204	INTERNATIONAL CINEMA	3
HY 104	WORLD HISTORY SINCE 1500	3
or HY 103	or WORLD HISTORY TO 1500	
Area V Course		3
Literature or Humanities		3

Term Semester Hours: 15

Year 3

Fall		
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	or CONVERSATION:GERMAN	
or WLC 301R	or CONVERSATION:RUSSIAN	

or WLC 301S	or CONVERSATION:SPANISH	
WLC 303F	FOREIGN LANG LIFE PROF:FRENC	3
or WLC 303G	or FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303R	or FOREIGN LANG LIFE & PROF:RUSSI	
or WLC 303S	or FOREIGN LANG LIFE & PROF:SPANI	
Minor Courses		6
Area V Course		3
Term Semester Hours:		15
Spring		
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	or COMPOSITION:GERMAN	
or WLC 302R	or COMPOSITION:RUSSIAN	
or WLC 302S	or COMPOSITION:SPANISH	
WLC 304F	CULTURE:FRENCH	3
or WLC 304G	or CULTURE:GERMAN	
or WLC 304R	or CULTURE:RUSSIAN	
or WLC 304S	or CULTURE:SPANISH	
Minor Courses		6
Area V Course		3
Term Semester Hours:		15
Year 4		
Fall		
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	or INTRO TO LITERATURE:GERMAN	
or WLC 305R	or INTRO TO LITERATURE:RUSSIAN	
or WLC 305S	or INTRO TO LITERATURE:SPANISH	
Minor Courses		6
Electives		6
Term Semester Hours:		15
Spring		
WLC 404F	TEXTS CONTEXTS:SEM LIT:FRENC	3
or WLC 404G	or TEXTS & CONTEXTS:SEM LIT/GERMA	
or WLC 404R	or TEXTS & CONTEXTS:SEM LIT:RUSSI	
or WLC 404S	or TEXTS & CONTEXTS:SEM LIT:SPANI	
WLC 409	SR SEM: COMPARATIVE LANG CUL	3-6
or WLC 410	or INT'L INTERN:COMP LANG/CULT	
Electives		6
Minor Course		3
Term Semester Hours:		15-18
Total Semester Hours:		120-123

Foreign Languages, BA - Foreign Language and International Trade Concentration

World Languages majors interested in enhancing their preparation for participation in the global economy may wish to consider a focus in international trade, which combines language courses with a study of business and international politics. The Foreign Language and International Trade Program includes the following courses. No minor is required for students who major in foreign languages with the international trade focus.

- Foreign Language, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.

- 25% of the major, minor, and overall coursework must be taken at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- All double counting of classes must be approved through the CAHS Academic Advising Office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	

WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II

11-12

3-4

8

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). In Area V, take no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional		19
WLC 101, 102, 201, and 202 will share between the World Language and Culture major and the Pre-Professional area. These classes may not also count in Area II of the GER. The hours only count once towards overall credit hours.		
Pre-Professional electives: Choose 7 additional credit hours from the above listed Fine Arts, Humanities, Literature, Mathematics, Sciences, History, and Social and Behavioral Sciences.		
Foreign Language and International Trade Major Requirements		64
WLC 101F or WLC 101G or WLC 101R or WLC 101S or WLC 101MS	INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:RUSSIAN INTRO FOREIGN LANG I: SPANISH INTRO TO MEDICAL SPANISH	3
WLC 102F or WLC 102G or WLC 102R or WLC 102S or WLC 102MS	INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:RUSSIAN INTRO FOREIGN LANG II:SPANISH INTRO TO MEDICAL SPANISH II	3
WLC 201F or WLC 201G or WLC 201R or WLC 201S	INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG:RUSSIAN INTERM FOREIGN LANG:SPANISH	3
WLC 202F or WLC 202G	INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN	3

or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	INTERM FOREIGN LANG II:SPANISH	
WLC 204	INTERNATIONAL CINEMA	3
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	CONVERSATION:GERMAN	
or WLC 301R	CONVERSATION:RUSSIAN	
or WLC 301S	CONVERSATION:SPANISH	
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	COMPOSITION:GERMAN	
or WLC 302R	COMPOSITION:RUSSIAN	
or WLC 302S	COMPOSITION:SPANISH	
WLC 303F	FOREIGN LANG LIFE & PROF:FRENC	3
or WLC 303G	FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303R	FOREIGN LANG LIFE & PROF:RUSSI	
or WLC 303S	FOREIGN LANG LIFE & PROF:SPANI	
WLC 304F	CULTURE:FRENCH	3
or WLC 304G	CULTURE:GERMAN	
or WLC 304R	CULTURE:RUSSIAN	
or WLC 304S	CULTURE:SPANISH	
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	INTRO TO LITERATURE:GERMAN	
or WLC 305R	INTRO TO LITERATURE:RUSSIAN	
or WLC 305S	INTRO TO LITERATURE:SPANISH	
WLC 404F	TEXTS & CONTEXTS:SEM LIT:FRENC	3
or WLC 404G	TEXTS & CONTEXTS:SEM LIT/GERMA	
or WLC 404R	TEXTS & CONTEXTS:SEM LIT:RUSSI	
or WLC 404S	TEXTS & CONTEXTS:SEM LIT:SPANI	
WLC 409	SR SEM: COMPARATIVE LANG & CUL ²	3-6
or WLC 410	INT'L INTERN:COMP LANG/CULT	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS ¹	3
ECN 143	PRINC OF MICROECONOMICS ¹	3
ACC 210	ACCOUNTING FOR BUSINESS	4
SOC 303 & SOC 304	STATISTICS/SOCIAL SCIENCES and STATISTICS LAB	3-4
or MSC 287	BUSINESS STATISTICS I	
FIN 301	PRINCIPLES OF FINANCE	3
FIN 454	INTERNATIONAL FINANCE	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MGT 450	INTERNATIONAL BUSINESS	3

Elective Courses

Elective hours vary by program, see advisor.

Total Semester Hours **120**¹ PSC 260 and ECN 143 may be shared between the WLC major and the social and behavioral sciences area in the general education.² If a student takes a 6 Hour internship abroad (410), then the student only needs WLC 305 OR 404.**Year 1****Fall**

WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	or INTRO FOREIGN LANG I:GERMAN

Semester Hours

3

or WLC 101R	or INTRO FOREIGN LANG I:RUSSIAN	
or WLC 101S	or INTRO FOREIGN LANG I: SPANISH	
or WLC 101MS	or INTRO TO MEDICAL SPANISH	
EH 101	COLLEGE WRITING I	3
Fine Arts		3
Math		3
FYE 101	CHARGER SUCCESS	1
Term Semester Hours:		13
Spring		
WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	or INTRO FOREIGN LANG II:GERMAN	
or WLC 102R	or INTRO FOREIGN LANG II:RUSSIAN	
or WLC 102S	or INTRO FOREIGN LANG II:SPANISH	
or WLC 102MS	or INTRO TO MEDICAL SPANISH II	
EH 102	COLLEGE WRITING II	3
Humanities/ Fine Arts		3
Science w/Lab		4
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	3
Term Semester Hours:		16
Year 2		
Fall		
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	or INTERM FOREIGN LANG:GERMAN	
or WLC 201R	or INTERM FOREIGN LANG:RUSSIAN	
or WLC 201S	or INTERM FOREIGN LANG:SPANISH	
Science w/Lab		4
ECN 142	PRINC OF MACROECONOMICS	3
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
EH 207	READINGS LITERATURE/ CULTURE I	3
or EH 208	or READINGS LITERATURE/ CULTURE 2	
Term Semester Hours:		16
Spring		
WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	or INTERM FOREIGN LANG II:GERMAN	
or WLC 202R	or INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	or INTERM FOREIGN LANG II:SPANISH	
WLC 204	INTERNATIONAL CINEMA	3
HY 104	WORLD HISTORY SINCE 1500	3

or HY 103	or WORLD HISTORY TO 1500	
Literature or Humanities		3
ACC 212	MANAGEMENT ACCOUNTING	3
Term Semester Hours:		15
Year 3		
Fall		
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	or CONVERSATION:GERMAN	
or WLC 301R	or CONVERSATION:RUSSIAN	
or WLC 301S	or CONVERSATION:SPANISH	
WLC 303F	FOREIGN LANG LIFE PROF:FRENC	3
or WLC 303G	or FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303R	or FOREIGN LANG LIFE & PROF:RUSSI	
or WLC 303S	or FOREIGN LANG LIFE & PROF:SPANI	
Area V Course ³		
MSC 287	BUSINESS STATISTICS I	3
or SOC 303	or STATISTICS/SOCIAL SCIENCES	
MGT 301	MANAGING ORGANIZATIONS	3
Term Semester Hours:		12
Spring		
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	or COMPOSITION:GERMAN	
or WLC 302R	or COMPOSITION:RUSSIAN	
or WLC 302S	or COMPOSITION:SPANISH	
WLC 304F	CULTURE:FRENCH	3
or WLC 304G	or CULTURE:GERMAN	
or WLC 304R	or CULTURE:RUSSIAN	
or WLC 304S	or CULTURE:SPANISH	
FIN 301	PRINCIPLES OF FINANCE	3
HY 103	WORLD HISTORY TO 1500	3
or HY 104	or WORLD HISTORY SINCE 1500	
MKT 301	PRINCIPLES OF MARKETING	3
Term Semester Hours:		15
Year 4		
Fall		
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	or INTRO TO LITERATURE:GERMAN	
or WLC 305R	or INTRO TO LITERATURE:RUSSIAN	
or WLC 305S	or INTRO TO LITERATURE:SPANISH	
FIN 454	INTERNATIONAL FINANCE	3
MKT 415	INTERNATIONAL MARKETING	3
or MGT 450	or INTERNATIONAL BUSINESS	
Area V Course		3
Elective		3
Term Semester Hours:		15

Spring

WLC 409	SR SEM: COMPARATIVE LANG CUL	6
or WLC 410	or INT'L INTERN:COMP LANG/ CULT	
Area V Course		3
Electives		9
Term Semester Hours:		18
Total Semester Hours:		120

Foreign Language Minor

Foreign language minors are offered in French, German, Russian, and Spanish. Foreign language majors are permitted to minor in a second foreign language. The Foreign Language Minor Program is comprised of eight courses.

- 25% of the minor must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Code	Title	Semester Hours
WLC 101F	INTRO FOREIGN LANG I:FRENCH	3
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
or WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101MS	INTRO TO MEDICAL SPANISH	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
or WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102MS	INTRO TO MEDICAL SPANISH II	
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
or WLC 201S	INTERM FOREIGN LANG:SPANISH	
WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	INTERM FOREIGN LANG II:SPANISH	
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	CONVERSATION:GERMAN	
or WLC 301R	CONVERSATION:RUSSIAN	
or WLC 301S	CONVERSATION:SPANISH	
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	COMPOSITION:GERMAN	
or WLC 302R	COMPOSITION:RUSSIAN	
or WLC 302S	COMPOSITION:SPANISH	
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	INTRO TO LITERATURE:GERMAN	
or WLC 305R	INTRO TO LITERATURE:RUSSIAN	
or WLC 305S	INTRO TO LITERATURE:SPANISH	
Select one of the following:		3
WLC 303F	FOREIGN LANG LIFE & PROF:FRENC	

or WLC 303G	FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303R	FOREIGN LANG LIFE & PROF:RUSSI	
or WLC 303S	FOREIGN LANG LIFE & PROF:SPANI	
WLC 304F	CULTURE:FRENCH	
or WLC 304G	CULTURE:GERMAN	
or WLC 304R	CULTURE:RUSSIAN	
or WLC 304S	CULTURE:SPANISH	
WLC 404F	TEXTS & CONTEXTS:SEM LIT:FRENC	
or WLC 404G	TEXTS & CONTEXTS:SEM LIT/GERMA	
or WLC 404R	TEXTS & CONTEXTS:SEM LIT:RUSSI	
or WLC 404S	TEXTS & CONTEXTS:SEM LIT:SPANI	
Total Semester Hours		24

Latin American Studies

- 25% of the minor requirements must be earned at UAH
- A minimum 2.0 GPA is required in the minor

Requirements

Basic Track (for non-Spanish majors)

Code	Title	Semester Hours
Required Spanish Language		
WLC 101S	INTRO FOREIGN LANG I: SPANISH	3
WLC 102S	INTRO FOREIGN LANG II:SPANISH	3
WLC 201S	INTERM FOREIGN LANG:SPANISH	3
WLC 202S	INTERM FOREIGN LANG II:SPANISH	3
Required History Courses		
HY 381	COLONIAL LATIN AMERICA	3
HY 382	MODERN LATIN AMERICAN	3
Electives (Choose Two)		
AES 210	COLLAPSE OF CIVILIZATIONS	3
AES 307	ENVIRONMENTAL ARCHEOLOGY	3
ARH 103	ARH SUR: WORLD ART	3
EH 439	ETHNIC AMERICAN NOVEL	3
HY 383	FOOD AND WORLD HISTORY	3
HY 473	U.S.-LATIN AMERICAN RELATIONS	3
HY 483	GENDER & SEXUALITY LATIN AM	3
HY 484	LATIN AMERICAN HIST THRU FILM	3
PSC 440	REGIONAL STUDIES	3
OR CHOOSE BOTH		
WLC 301S & WLC 499S	CONVERSATION:SPANISH and INDEPENDENT STUDY:SPANISH	6
Total Hours		24

Advanced Track (for Spanish majors)

Code	Title	Semester Hours
Required History Courses		
HY 381	COLONIAL LATIN AMERICA	3
HY 382	MODERN LATIN AMERICAN	3
Electives (Choose Five)		
AES 210	COLLAPSE OF CIVILIZATIONS	3

AES 307	ENVIRONMENTAL ARCHEOLOGY	3
ARH 103	ARH SUR: WORLD ART	3
EH 439	ETHNIC AMERICAN NOVEL	3
HY 383	FOOD AND WORLD HISTORY	3
HY 473	U.S.-LATIN AMERICAN RELATIONS	3
HY 483	GENDER & SEXUALITY LATIN AM	3
HY 484	LATIN AMERICAN HIST THRU FILM	3
PSC 440	REGIONAL STUDIES	3
WLC 499S	INDEPENDENT STUDY:SPANISH	3
Total Hours		21

Global Professional Pathways Certificate

(French/German/Russian/Spanish)

The Department of World Languages and Cultures, in collaboration with the Global Studies Program, offers the Global Professional Pathways Certificate in French, German, Russian, and Spanish.

This certificate program provides students a clear path to combine foreign language study with experiential learning abroad opportunities such as intensive foreign language study, internships, and research opportunities. This combination will help students be able to integrate cross-cultural communication skills into their chosen careers and provide them invaluable skills to advance in their careers.

The requirements for the Certificate are sixteen (16) hours of course work and participation in a UAH-approved education abroad program for a minimum of four continuous weeks in a country where the target language is spoken as a major language. Students are encouraged to study abroad for at least a semester and seek to integrate an internship or research abroad experience into their time abroad.

Required Courses:

Code	Title	Semester Hours
Required Courses		
GS 450	GLOBAL PROFESSIONAL PORTFOLIO	1
WLC 303F	FOREIGN LANG LIFE & PROF:FRENC	3
or WLC 303G	FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303R	FOREIGN LANG LIFE & PROF:RUSSI	
or WLC 303S	FOREIGN LANG LIFE & PROF:SPANI	
And any four from the following (all in the same language):		
WLC 101F	INTRO FOREIGN LANG I:FRENCH	3
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
or WLC 101S	INTRO FOREIGN LANG I: SPANISH	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
or WLC 102S	INTRO FOREIGN LANG II:SPANISH	
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
or WLC 201S	INTERM FOREIGN LANG:SPANISH	
WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	INTERM FOREIGN LANG II:SPANISH	
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	CONVERSATION:GERMAN	
or WLC 301R	CONVERSATION:RUSSIAN	

or WLC 301S	CONVERSATION:SPANISH	
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	COMPOSITION:GERMAN	
or WLC 302R	COMPOSITION:RUSSIAN	
or WLC 302S	COMPOSITION:SPANISH	
WLC 304F	CULTURE:FRENCH	3
or WLC 304G	CULTURE:GERMAN	
or WLC 304R	CULTURE:RUSSIAN	
or WLC 304S	CULTURE:SPANISH	
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	INTRO TO LITERATURE:GERMAN	
or WLC 305R	INTRO TO LITERATURE:RUSSIAN	
or WLC 305S	INTRO TO LITERATURE:SPANISH	
WLC 404F	TEXTS & CONTEXTS:SEM LIT:FRENC	3
or WLC 404G	TEXTS & CONTEXTS:SEM LIT/GERMA	
or WLC 404R	TEXTS & CONTEXTS:SEM LIT:RUSSI	
or WLC 404S	TEXTS & CONTEXTS:SEM LIT:SPANI	

Additional Requirements:

- All foreign language coursework must be done in a single language.
- At least three of the five WLC courses must be taken at UAH.
- Average grade of B or higher is required for all language courses, and a grade of B or higher for GS 450.

To be awarded the Certificate upon graduation, students must officially declare the Certificate with a college advisor to have it added to their program of study. Then, they must request for it to be audited when they apply for graduation and go through the degree audit process. Certificate programs are not audited automatically.

Students with some prior knowledge of the language can test out of lower level courses and be placed into higher courses. For the courses they test out of, students will receive up to (6) departmental credit hours, but no grades or quality points, towards completion of the Certificate. If the student tests out of more than six (6) hours of courses, they are encouraged choose a language Minor or Major in conjunction with the Certificate. Also, if the student tests out of more than (6) hours, they must complete coursework for the remaining 10 hours of the certificate. Unlike Major and Minor programs, no coursework/hours may be waived from the 16 hours required for the Certificate. Post-Baccalaureate students are not eligible for department credit.

Foreign Language and Global Engagement Certificate

(French/German/Russian/Spanish/Arabic/Japanese)

The Department of World Languages and Cultures, in collaboration with the Global Studies Program, offers a Certificate in Foreign Language and Global Engagement in French, German, Russian, and Spanish. The Certificate may also be earned in Arabic or Japanese if all of the required courses are available, which may be contingent on enrollment. If a student would like to pursue the Certificate in Arabic or Japanese, they should first talk to the World Languages and Cultures department chair about the availability of courses, possibilities for fulfilling requirements via study abroad, or potential course substitutions.

All coursework must be done in a single language. The Certificate is aimed at UAH students and members of the larger community who wish to acquire officially certified world language and culture skills appropriate for global engagement in a breadth of academic contexts (from research collaboration across the disciplines and professions to medical practice, global trade, the arts, and diplomacy). The Certificate also facilitates UAH's evolving study-abroad/research opportunities that require world language skills. Upon successful completion of the Certificate, the students will have acquired intermediate world language proficiency in both oral and written communication appropriate in a variety of everyday situations and professional environments. They will also have gained basic knowledge in the cultural, economic, political, and historical ramifications of globalization.

The requirements for the Certificate are:

Code	Title	Semester Hours
WLC 101F	INTRO FOREIGN LANG I:FRENCH	3
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	

or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
or WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101MS	INTRO TO MEDICAL SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
or WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102MS	INTRO TO MEDICAL SPANISH II	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
or WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
or WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	CONVERSATION:GERMAN	
or WLC 301J	CONVERSATION:JAPANESE	
or WLC 301R	CONVERSATION:RUSSIAN	
or WLC 301S	CONVERSATION:SPANISH	
or WLC 301A	CONVERSATION: ARABIC	
GS 200	GLOBAL SYSTEMS AND CULTURES	3

Total Semester Hours**18**

To qualify for the Certificate, a "B" average or higher is required for the world language courses; a grade of "B" or higher is required for GS 200. Students majoring or minoring in world languages can also pursue this Certificate. Native speakers of French, German, Russian, Spanish, Japanese, or Arabic cannot pursue the Certificate in their own language but are encouraged to pursue the Certificate in one of the other languages. Since the Certificate is not a Major/Minor, it does not presuppose Charger Foundations courses or any other coursework prior to the Certificate sequence. It can also be earned as a post-Baccalaureate certificate. Standard UAH admission procedures for degree-seeking students apply.

To be awarded the Certificate upon graduation, students must officially declare the Certificate with a college advisor to have it added to their program of study. Then, they must request for it to be audited when they apply for graduation and go through the degree audit process. Certificate programs are not audited automatically.

Students with some prior knowledge of the language can test out of lower level courses and be placed into higher courses. For the courses they test out of, students will receive up to (6) credit hours, but no grades or quality points, towards completion of the Certificate. Post-Baccalaureate students are not eligible for departmental credit.

If the student tests out of more than six (6) hours of courses, they should choose a language Minor or Major rather than or in conjunction with the Certificate. In the event that pursuing a Minor or Major is not an option, they should take additional courses in their language or a relevant Global Studies-approved course to fulfill any remaining hours required for the Certificate. Unlike major and minor programs, no coursework/hours may be waived from the 18 hours required for the Certificate. Any course substitutions must be approved by the World Languages and Cultures Chair or the Global Studies Director.

Writing, BA

The Writing Major is an interdisciplinary program designed for students who want to make writing central to their career. The major prepares students for careers in writing-related fields—such as technical writing, publishing, social media consulting, and public relations—or graduate studies in rhetoric and composition, communication, creative writing, education, or law. By combining courses from the English and Communication Arts departments, the

major gives students a comprehensive education in writing and rhetorical theory along with the techniques necessary to craft effective documents in multiple genres. All students take six core courses that instill a firm foundation in writing fundamentals and two electives that allow students to customize their education. Every student also chooses one of six concentrations: technical and professional writing, creative writing, media writing, rhetoric and composition, public relations, or a customized concentration created by the student in consultation with their advisor. The major also includes a capstone portfolio that allows students to revise documents that they can show to potential employers or graduate programs.

- Writing, BA requires 120 credit hours.
- 36 of 120 credit hours must be taken at 300 level or higher.
- Must have a 2.0 GPA in major, minor, and overall.
- No more than 6 credit hours of HPE may count in degree requirements.
- 12 of the last 18 credit hours must be taken at UAH.
- 25% of the major, minor, and overall coursework must be earned at UAH.
- No more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- Any double counting of classes must be approved through the CAHS advising office.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC	

or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Area V allows no more than six hours in a single discipline from Areas II, III, or IV. Area V should cover a breadth of disciplinary study.

Code	Title	Semester Hours
Area V: Pre-Professional Courses		19
Choose 3 Hours WLC 101, 102, 201, or 202		
Choose 16 additional credit hours from the above listed English Literature, Fine Arts, Humanities, History, Mathematics, Science, and Social and Behavioral Sciences		
Writing Major Requirements		39-40
Core Requirements		15
CM 113	Intro to Rhetorical Communication	
EH 260	INTRO TO WRITING MAJOR	
CM 375 or EH 403	RHETORICAL CRITICISM LITERARY CRITICISM & THEORY	
CM 408 or CM 409	CLASSICAL RHET THEORY CONTEMPORARY RHETORICAL THEORY	
EH 340	ACADEMIC WRITING	

EH 463 CAPSTONE IN WRITING (Capstone)

Concentration Courses: Choose one concentration below.**18-19**

Technical and Professional Writing

EH 301	TECHNICAL WRITING
EH 302	TECHNICAL EDITING
EH 320	PRACTICUM IN WRITING
EH 401	THEORY & PRACTICE IN TECH COMM

Technical Electives: Choose six hours with faculty advisor.

Creative Writing

EH 211	INTRO CREATIVE WRITING
EH 410	FICTION WRITING
EH 411	POETRY WRITING
EH 414	CREATIVE NONFICTION WRITING

Literature Electives 300+: Choose six hours of EH 300+ literature courses.

Media Writing

CM 205	INTRO TO JOURNALISM
CM 405	ADVANCED MEDIA WRITING
EH 454 or CM 454	NEW MEDIA WRITING & RHETORIC NEW MEDIA WRITING & RHETORIC
CM 444 or CM 435	ADVERTISING SOCIAL MEDIA
EH 414	CREATIVE NONFICTION WRITING
EH/CM 320	PRACTICUM IN WRITING

Rhetoric and Composition

CM 408 or CM 409	CLASSICAL RHET THEORY CONTEMPORARY RHETORICAL THEORY
CM 375 or EH 403	RHETORICAL CRITICISM (Take course not taken in core.) LITERARY CRITICISM & THEORY
EH 400	COMPOSITION STUDIES FOR TCHERS
EH 475	RHETORIC AND WRITING
EH 454 or CM 454	NEW MEDIA WRITING & RHETORIC NEW MEDIA WRITING & RHETORIC

Public Relations

CM 418	LEGAL ARGUMENT
CM 205	INTRO TO JOURNALISM
CM 220	INTRO PUBLIC RELATIONS
CM 405	ADVANCED MEDIA WRITING
CM 420	PUBLIC RELATIONS WRITING
CM 400	INTERNSHIP
CM 440	PUBLIC RELATIONS CAMPAIGN

Student/Advisor Designed

18 hours of approved writing electives designed in consultation with an advisor to meet specific career goals.

Electives: Choose two not taken above.**6-7**

CM 205	INTRO TO JOURNALISM
CM 220	INTRO PUBLIC RELATIONS
CM 231	FOUNDATIONS OF HUMAN COMMUNICA
CM 310	PERSUASION
CM 375	RHETORICAL CRITICISM
CM 400	INTERNSHIP
CM 405	ADVANCED MEDIA WRITING
CM 408	CLASSICAL RHET THEORY
CM 409	CONTEMPORARY RHETORICAL THEORY

CM 418	LEGAL ARGUMENT
CM 420	PUBLIC RELATIONS WRITING
CM 430	MASS MEDIA IN AMERICA
CM 435	SOCIAL MEDIA
CM 440	PUBLIC RELATIONS CAMPAIGN
CM 444	ADVERTISING
EH 211	INTRO CREATIVE WRITING
EH 300	STRATEGIES FOR BUSINESS WRIT'G
EH 301	TECHNICAL WRITING
EH 302	TECHNICAL EDITING
EH 400	COMPOSITION STUDIES FOR TCHERS
EH 401	THEORY & PRACTICE IN TECH COMM
EH 403	LITERARY CRITICISM & THEORY
EH 410	FICTION WRITING
EH 411	POETRY WRITING
EH 412	SPEC STUDIES CREATIVE WRITING
EH 414	CREATIVE NONFICTION WRITING
EH 475	RHETORIC AND WRITING
ESL 410	INTRO TO LANGUAGE SYSTEMS
ESL 420	INSTR & ACADMC LANG CNTNT DOMN
EH 454	NEW MEDIA WRITING & RHETORIC
or CM 454	NEW MEDIA WRITING & RHETORIC
TH 260	VIDEO PRODUCTION

Minor **18+**

Elective courses

Elective hours vary by program, please see advisor.

Total Semester Hours **120**

- English (p. 123)
- User Experience (p. 235)

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
CM 113	Intro to Rhetorical Communication	3
Math		3
Social/Behavioral Sciences		3
FYE 101A	CHARGER SUCCESS - ART,HUM,SOCs	1
Term Semester Hours:		13
Spring		
EH 102	COLLEGE WRITING II	3
WLC 101		3
Social/Behavioral Sciences		3
Science w/Lab		4
HY 104	WORLD HISTORY SINCE 1500	3
or HY 103	or WORLD HISTORY TO 1500	
Term Semester Hours:		16

Year 2

Fall		
English Literature		3
EH 260	INTRO TO WRITING MAJOR	2
Social/Behavioral Sciences		3
Science w/Lab		4

Area V Course		3
Term Semester Hours:		15
Spring		
English Literature		3
CM 375	RHETORICAL CRITICISM	3
or EH 403	or LITERARY CRITICISM & THEORY	
Area V Course		3
Minor Courses		6
Term Semester Hours:		15
Year 3		
Fall		
Writing Concentration Courses		6
CM or EH Elective		3
Minor Course		3
Area V Courses		6
Term Semester Hours:		18
Spring		
EH 340	ACADEMIC WRITING	3
Writing Concentration Course		3
Minor Course		3
Area V Courses		6
Term Semester Hours:		15
Year 4		
Fall		
CM 408	CLASSICAL RHET THEORY	3
or CM 409	or CONTEMPORARY RHETORICAL THEORY	
Writing Concentration Courses		6
Minor Course		3
Elective		3
Term Semester Hours:		15
Spring		
EH 463	CAPSTONE IN WRITING	1
Writing Concentration Course		3
EH or CM Elective ^{300+ Level}		3
Minor Course		3
Elective		3
Term Semester Hours:		13
Total Semester Hours:		120

College of Business

Dean's Office

business@uah.edu (business@uah.edu)
256.824.4424
BAB 202

Undergraduate Advising

undergradbusiness@uah.edu (undergradbusiness@uah.edu)
256.824.6787
BAB 102

Graduate Advising

gradbusiness@uah.edu (gradbusiness@uah.edu)

256.824.6787
BAB 102

Mission

Our mission is to fuel innovation in business, spark new ideas through research, and launch the careers of our students.

- We tap the creativity, expertise, and energy of our students, faculty, and community to fuel innovation in business practices and business education.
- Our faculty and students spark ideas, foster discovery, create and communicate knowledge, and develop frameworks for solutions to challenges facing business and society today and in the future.
- Our academic programs, emphasize leadership, innovation, analytical reasoning, ethical decision-making, and critical thinking to launch the careers of our diverse population of students.

Accreditation

The College of Business is accredited by AACSB International (<https://www.aacsb.edu/>). AACSB provides the highest standard of accreditation offered to business schools worldwide, with fewer than 25% of U.S. business schools and fewer than 5% of worldwide business schools achieving the distinction. To maintain AACSB accreditation, we must have a specific plan and sufficient resources to support high quality undergraduate and graduate programs, a highly qualified faculty who maintain credentials through continuous research or engagement with practice, and a process for assessing that our students are learning what we teach. We report to AACSB annually and undergo a comprehensive review every five years.

Degrees Offered

Bachelor of Science in Business Administration (BSBA)

The Bachelor of Science in Business Administration (BSBA) degree is a comprehensive four-year program that prepares graduates to be managers, leaders, and technical specialists in business, not-for-profit, and government organizations. The degree program includes a liberal arts and science foundation (called Charger Foundations), a business core curriculum, a business major, a concentration within the major, and a choice of elective courses. During the first two years, students focus on Charger Foundations with coursework in composition, the humanities and fine arts, history, social and behavioral sciences, natural and physical sciences, and mathematics. Charger Foundation courses are designed to broaden intellectual awareness and enhance the development of cultural literacy and analytical thinking. During the remaining two years, students first study the core foundations of business, then they focus on a specific major in either accounting, finance, information systems, management, or marketing. Within each major, students have an opportunity to further concentrate their program in an area of particular interest such as cybersecurity, federal contracting, human resource management, supply chain management, and other areas.

NOTE: Students electing to double major in accounting, finance, information systems, management, or marketing may use the courses completed in one major to count towards applicable requirements in the second major. BSBA students cannot double major in General Business.

The College of Business offers the following majors:

- Accounting (p. 271)
- Finance (p. 292)
- Information Systems (p. 304)
- Management (p. 317)
- Marketing (p. 343)
- General Business (p. 299)

Bachelor of Science in Economics and Computational Analysis (BSECA)

The Economics and Computational Analysis (BSECA) degree (p. 286) is a comprehensive four-year program that teaches students how to combine economic models, computational tools, and econometric methods to improve business and social decision-making. Students evaluate economic development strategies, identify entrepreneurial opportunities, and analyze public policy in a world that continues to change the way people communicate, perceive their world, make decisions, and conduct business. During the first two years, students focus on Charger Foundations with coursework in composition, the humanities and fine arts, history, social and behavioral sciences, natural and physical sciences, and mathematics. Charger Foundation courses are designed to broaden intellectual awareness and enhance the development of cultural literacy and analytical thinking. In the junior and senior years, students move into higher level coursework in economics and complete the requirements for either a major or a minor in an area of interest. The BSECA program is designed to be coupled with a minor or double major to enrich the student's perspective about defining and modeling complex problems. Some students select a double major in a business discipline such as finance or accounting whereas others choose a different context by selecting a double major or minor in sociology, philosophy, or political science.

Minors

Students from any major may want to augment the coursework from their degree program with a minor (<https://www.uah.edu/business/undergraduate/minors/>) in a business-related area. College of Business minors are 18-22 semester hours in length.

NOTE: Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

The College of Business offers minors in the following disciplines:

- Accounting (p. 284)
- Business (p. 340)
- Economics (p. 291)
- Entrepreneurship (p. 340)
- Finance (p. 299)
- Human Resource Management (p. 341)
- Information Systems (p. 304)
- Management & Leadership (p. 342)
- Marketing (p. 360)

JUMP! Program

UAH's Joint Undergraduate Master's Program (JUMP!) allows undergraduate students to study at the graduate level. Students from any UAH college and major can apply for JUMP! in the College of Business. Applicants are required to have a UAH GPA of 3.2 or higher and a cumulative GPA of 3.2 or higher, including all undergraduate transfer coursework. Up to 12 credit hours of approved courses may be counted towards a graduate degree. Please visit the JUMP! (<https://www.uah.edu/admissions/graduate/discover-uah/joint-undergraduate-masters-program/>) page for additional information.

Transfer Credit Eligibility

Eligibility of transfer credits depends upon the subject matter of each credit and accreditation status for the institution awarding each credit. Not all transferable classes are applicable to every degree program offered at UAH. Contact your academic advisor (<https://www.uah.edu/academic-advising/>) to arrange evaluation of credits.

Transferring from a 4-Year College

If you are transferring from an accredited four-year institution, you may transfer an unlimited number hours with the exception of technical, remedial, vocational, and orientation credits. UAH requires that 25% of total requirements and 12 of the final 18 degree hours are completed with UAH courses. The College of Business will only review or approve a business discipline course for transfer credit if the institution at which the student took the course meets at least one of the following criteria:

1. The college or school of business (or relevant division) at the institution is currently accredited by AACSB, EQUIS, or AMBA; or
2. The institution is ranked by US News and World Report in the Top 200 National Liberal Arts Colleges in the current year.

The College of Business will not review or approve 100- or 200-level courses for transfer credit at the 300- or 400-level.

Students participating in Study Abroad must seek review and approval of courses to assure they will receive transfer credit prior to enrolling in the courses at an institution abroad.

PROCEDURE:

1. Students who wish to transfer in upper division credit (3xx or 4xx level) from another regionally accredited four-year institution will initiate the request by submitting transcripts to the Office of the Registrar and providing a paper or electronic copy of the syllabus to their academic advisor in the College of Business.
2. If the institution and the course syllabus meet the College of Business policy criteria for evaluation, the advisor will forward the syllabus to the relevant department chair at UAH.

The department chair may, at their discretion, approve or reject the proposed course credit transfer. The department chair may circulate the syllabus among faculty who teach the course at UAH or who are subject matter experts to solicit their input.

Contact one of our academic advisors (<https://www.uah.edu/business/student-affairs/academic-advising/>) to determine how your coursework will apply towards your degree at UAH.

Transferring from a 2-Year College

A maximum of 60 semester hours of credit from a junior, community, or two-year college may be transferred and applied to a business degree program at UAH.

Accounting

Department Chair Contact Information

Telephone: 256.824.6590

Email: acc@uah.edu

Mission

The Department of Accounting, Economics, and Finance provides academically rigorous programs in accounting, economics, and finance. We teach sound principles and concepts as well as the analytical tools for applications to practical business problems. Through its scholarly activity, the departmental faculty develops and disseminates knowledge related to accounting, economics and finance theory, pedagogy, and practice.

Accounting

Accounting careers vary widely in today's complex, global economy. Graduates may find themselves tracking illegal funds for the FBI or preparing financial statements for multi-billion dollar firms. Generally, accounting career paths can be described as financial reporting, assurance, budget analysis, management accounting, tax accounting, and federal contract accounting. Accountants may work for public accounting firms, public or private corporations, governments at all levels, or for themselves in private practice.

Students considering the professional certification examinations upon graduation, such as the Certified Public Accountant (CPA), the Certified Management Accountant (CMA), or the Certified Internal Auditor (CIA), will need course work in accounting beyond the minimum requirements for the BSBA degree. Among other requirements, the Alabama State Board of Public Accountancy requires 150 semester hours of credit in order to be licensed as a CPA in Alabama. The College of Business offers a Master of Accountancy (MAcc) degree that meets or exceeds requirements for professional accounting certifications in Alabama.

There are two concentrations within the accounting major:

- Accounting, BSBA - Federal Contract Accounting Concentration (p. 273)
- Accounting, BSBA - General Accounting Concentration (p. 279)

The College of Business offers an Accounting minor for business students who want additional knowledge in the subject but do not want an Accounting major. Students from other colleges are able to complete this minor.

- Accounting (p. 284)

ACC 201 - ACCOUNTING & FINANCE FOR ENTREPRENEURS

Semester Hours: 3

An introductory look at the basic principles of accounting and finance for small businesses: financial statement preparation and analysis, time value of money, sources of capital, cost of capital, job order costing, cost-volume-profit analysis and budgeting.

ACC 210 - ACCOUNTING FOR BUSINESS

Semester Hours: 4

An introduction to the role accounting information plays in business. Topics include both external and internal uses of accounting information with a particular focus on the accounting cycle, the preparation and interpretation of financial statements, and the role of accounting information in management decision-making.

ACC 211 - PRINC OF FINANCIAL ACCOUNTING

Semester Hours: 3

Introduction to basic concepts that underlie accounting information. Topics include the statement of financial position, the income statement, the accounting cycle, internal control, and ethical and behavioral issues in financial reporting. Emphasis is placed on proper use of financial statement information.

ACC 212 - MANAGEMENT ACCOUNTING

Semester Hours: 3

An introduction to the use of accounting information for internal planning and control. Topics include cost behavior, cost-volume-profit analysis, cost measurement, relevant costs for decision-making, budgeting, and performance evaluation. Prerequisite: ACC 211.

ACC 307 - ACCOUNTING INFORMATION SYS

Semester Hours: 3

A detailed review and analysis of procedures required to capture, classify, summarize and report financial information. Topics include elements of accounting systems, business documents, consideration in systems design, flowcharting, and procedures to protect property and information. Extensive use is made of the personal computer and the SAP software to illustrate the concepts covered in the course. Prerequisite: ACC 210 or ACC 212.

ACC 310 - INTERM FINANCIAL ACCT I

Semester Hours: 3

First in a two-course sequence to examine the measurement and reporting of income, cash flows, assets, liabilities, and owner's equity in financial statements. Topics include financial statements, current assets and liabilities, investments, revenue recognition, and error analysis. Prerequisite: ACC 210 or (ACC 211 or ACC 212) (with a grade of B- or better).

ACC 310L - LABORATORY

Semester Hours: 0

Intermediate Accounting I Lab provides extra opportunities for students to practice and to develop their problem-solving skills.

ACC 311 - INTERM FINANCIAL ACCT II

Semester Hours: 3

Second in a two-course sequence to examine the measurement and reporting of income, cash flows, assets, liabilities, and owner's equity in financial statements. Topics include long-term assets and liabilities, leases, income taxes, pensions, and owner's equity. Prerequisite: ACC 310.

ACC 311L - INTERM FINANCIAL ACCT II LAB

Semester Hours: 0

Intermediate Accounting II lab provides extra opportunities for students to practice and to develop their problem-solving skills.

ACC 313 - INDIVIDUAL/SMALL BUS INCOME TA

Semester Hours: 3

Determination of taxable income, business and non-business deductions, and selected aspects of tax accounting for individuals and sole proprietorships. Prerequisite: ACC 210 or ACC 212.

ACC 413 - CORPORATE & PARTNERSHIP TAXATN

Semester Hours: 3

Tax accounting for partnerships, corporations, S corporations, estates, and trusts. Tax administration and research are emphasized. Prerequisite: ACC 313.

ACC 414 - COST ACCOUNTING

Semester Hours: 3

Development and use of cost data for external reporting and internal planning and control. Topics include cost modeling, job and process costing, standard costing, activity-based costing, and budgeting. Development of relevant cost information for special purposes is also considered. Prerequisite: ACC 310 (C or better).

ACC 415 - ADV FINANCIAL ACCOUNTING

Semester Hours: 3

Analysis of financial accounting issues and alternatives concerning business combinations, intercorporate investments, international business, and partnerships. Prerequisite: ACC 311.

ACC 417 - ACC ST/LOCAL GOV & NON-PROFITS

Semester Hours: 3

Fund accounting at federal, state, and local governments, hospitals, and universities. Special accounting principles, budgeting, accounting for various funds and account groups are emphasized. Prerequisite: ACC 210 or ACC 212.

ACC 420 - STATE AND LOCAL TAXATION

Semester Hours: 3

Principles of state income tax, sales and other excise taxes, and property tax. Taxation of interstate commerce will be examined along with US constitutional restrictions on the ability of states to tax interstate commerce.

ACC 431 - PRINCIPLES OF AUDITING

Semester Hours: 3

Conceptual foundations of auditing practice. Basic auditing concepts including professional ethics, legal ability, independence, and competence. Auditing of computer-oriented systems, audit sampling, and standards of reporting. Role of the internal and independent auditor. Prerequisite: ACC 307 & ACC 310.

ACC 432 - ADVANCED AUDITING

Semester Hours: 3

Practical applications of auditing concepts and standards. An understanding of auditing principles is reinforced and expanded by exposure to problems and cases. Prerequisite: ACC 431.

ACC 433 - FORENSIC ACCOUNTING

Semester Hours: 3

Study of the nature and types of fraud. The course covers the tools and techniques used to prevent, investigate, and detect fraud. Prerequisite: ACC 431.

ACC 440 - BASIC GOV CONTRACT ACCTG

Semester Hours: 3

Basic coverage and principles of government contract accounting with an emphasis on the Federal Acquisition Regulation (FAR). Prerequisite: ACC 314 or ACC 414.

ACC 441 - ADVANCED GOV CONTRACT ACCTG

Semester Hours: 3

Advanced issues in government contract cost accounting with an emphasis on the Federal Acquisition Regulation (FAR) and Cost Accounting Standards (CAS) cost allocation guidelines. Prerequisite: ACC 440.

ACC 470 - SEMINAR/CONTEMP ACCTG ISSUES

Semester Hours: 3

Current topics in professional accounting. Prerequisite: ACC 311 and permission of instructor.

ACC 480 - PROFESSIONAL CERTIFICATION

Semester Hours: 3

Review of the four areas of the Accounting Standards and Procedures: Regulation, Business Environment and Concepts, Financial Accounting and Reporting, Auditing and Attestation. Knowledge of the concepts in each of the areas is required for professional accounting certification practice. Prerequisite: Permission of Department Chair.

ACC 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Independent study in an area of interest to the student in the fields of accounting. Department chair permission required.

ACC 495 - INTERNSHIP IN ACCOUNTING

Semester Hours: 1-3

Active involvement in a project in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student. Subject to College's guidelines on internships. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis.

Accounting, BSBA - Federal Contract Accounting Concentration

BSBA, Accounting Requirements (Federal Contract Accounting Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F or WLC 202G	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN	

or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	3-4
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	8
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS	
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ³ ACCOUNTING FOR BUSINESS	
BLS 211	LEGAL ENVIRON/BUSINESS	
IS 146	COMPUTER APPL IN BUSINESS	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING	
CM 313	BUSINESS & PROFESSIONAL COMM	
Select one 300-400 level ECN elective		

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

³ Accounting majors taking ACC 211 and ACC 212 must score a grade of B- or better in ACC 211 and a grade of C- or better in ACC 212. Accounting majors that have taken ACC 210 must score a grade of B- or better.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Accounting Major (Federal Contract Accounting Concentration)		21
ACC 307	ACCOUNTING INFORMATION SYS	
ACC 310	INTERM FINANCIAL ACCT I ⁴	
ACC 310L	LABORATORY	
ACC 311	INTERM FINANCIAL ACCT II	
ACC 311L	INTERM FINANCIAL ACCT II LAB	
ACC 414	COST ACCOUNTING	
ACC 431	PRINCIPLES OF AUDITING	
ACC 440	BASIC GOV CONTRACT ACCTG	
Select one of the following business electives:		
MGT 401	INTRO TO CONTRACT MANAGEMENT	
or MGT 402	CONTRACT EVALUATION & AWARD	
or MGT 403	CONTRACT PRICING & COST ANALYS	
or BLS 406	GOVERNMENT CONTRACT LAW	
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

⁴ Accounting majors must score a grade of C- or better in ACC 310.

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		

Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
ECN 143	PRINC OF MICROECONOMICS	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 212	MANAGEMENT ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
MSC 288	BUSINESS STATISTICS II	3
Humanities elective (Non-Literature)		3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 3		
Fall		
ACC 310	INTERM FINANCIAL ACCT I	3
ACC 310L	LABORATORY	0
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 301	MANAGING ORGANIZATIONS	3
Term Semester Hours:		15
Spring		
ACC 307	ACCOUNTING INFORMATION SYS	3
ACC 311	INTERM FINANCIAL ACCT II	3
ACC 311L	INTERM FINANCIAL ACCT II LAB	0
CM 313	BUSINESS PROFESSIONAL COMM	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 385	OPERATIONS ANALYSIS	3
Term Semester Hours:		15
Year 4		
Fall		
ACC 414	COST ACCOUNTING	3
MGT 450	INTERNATIONAL BUSINESS	3
300-400 level ECN elective		3
300-400 level upper division business elective		3
100-400 level free elective		3
Term Semester Hours:		15
Spring		
ACC 431	PRINCIPLES OF AUDITING	3
ACC 440	BASIC GOV CONTRACT ACCTG	3
MGT 401	INTRO TO CONTRACT MANAGEMENT	3
or MGT 402	or CONTRACT EVALUATION & AWARD	
or MGT 403	or CONTRACT PRICING & COST ANALYS	
or BLS 406	or GOVERNMENT CONTRACT LAW	

MGT 499	COMPETITIVE STRATEGY	3
Term Semester Hours:		12
Total Semester Hours:		120

Accounting, BSBA - General Accounting Concentration

BSBA, Accounting Requirements (General Accounting Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- For UAH degree requirements and graduation application instructions, see here (p. 879).

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	

WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	

BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences***12**

History	3-6
HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences	6-9
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Code	Title	Semester Hours
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Area V: Pre-Professional Courses**31**

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ³ ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS

MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

- ¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.
- ² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.
- ³ Accounting majors taking ACC 211 and ACC 212 must score a grade of B- or better in ACC 211 and a grade of C- or better in ACC 212. Accounting majors that have taken ACC 210 must score a grade of B- or better.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Accounting Major Requirements (General Accounting Concentration)		21
ACC 307	ACCOUNTING INFORMATION SYS	
ACC 310	INTERM FINANCIAL ACCT I ⁴	
ACC 310L	LABORATORY	
ACC 311	INTERM FINANCIAL ACCT II	
ACC 311L	INTERM FINANCIAL ACCT II LAB	
ACC 313	INDIVIDUAL/SMALL BUS INCOME TA	
ACC 414	COST ACCOUNTING	
ACC 431	PRINCIPLES OF AUDITING	
Select one 300-400 level ACC elective or BLS 411		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

- ⁴ Accounting majors must score a grade of C- or better in ACC 310.

Year 1

Fall		Semester Hours
EH 101 or EH 101S	COLLEGE WRITING I or COLLEGE WRITING I W/STUDIO	3
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107 or MA 107S or MA 112 or MA 112S	ALGEBRA WITH APPLICATIONS or ALGEBRA W/APPLICATIONS S-SECT or PRECALCULUS ALGEBRA or PRECALCULUS ALGEBRA S-SECTION	3
Fine Arts elective		3

History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		
Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
ECN 143	PRINC OF MICROECONOMICS	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
MSC 288	BUSINESS STATISTICS II	3
Humanities elective (Non-Literature)		3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 3		
Fall		
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
ACC 310	INTERM FINANCIAL ACCT I	3
ACC 310L	LABORATORY	0
ACC 313	INDIVIDUAL/SMALL BUS INCOME TA	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 301	MANAGING ORGANIZATIONS	3
Term Semester Hours:		15
Spring		
ACC 307	ACCOUNTING INFORMATION SYS	3
ACC 311	INTERM FINANCIAL ACCT II	3
ACC 311L	INTERM FINANCIAL ACCT II LAB	0
FIN 301	PRINCIPLES OF FINANCE	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 385	OPERATIONS ANALYSIS	3
Term Semester Hours:		15
Year 4		
Fall		
ACC 414	COST ACCOUNTING	3
CM 313	BUSINESS PROFESSIONAL COMM	3
MGT 450	INTERNATIONAL BUSINESS	3
300-400 level upper division business elective		3

100-400 level free elective		3
Term Semester Hours:		15
Spring		
ACC 431	PRINCIPLES OF AUDITING	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ACC elective		3
300-400 level ECN elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Accounting Minor

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

Code	Title	Semester Hours
Required Courses		18-19
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ¹ ACCOUNTING FOR BUSINESS	
ACC 310	INTERM FINANCIAL ACCT I	
ACC 310L	LABORATORY	
Choose 3 courses from the following if taking ACC 211 and ACC 212. Choose 4 courses if taking ACC 210.		
ACC 307	ACCOUNTING INFORMATION SYS	
ACC 311	INTERM FINANCIAL ACCT II (with ACC 311L)	
ACC 313	INDIVIDUAL/SMALL BUS INCOME TA	
ACC 414	COST ACCOUNTING	
ACC 431	PRINCIPLES OF AUDITING	
Total Hours		18-19

¹ Accounting minors taking ACC 211 and ACC 212 must score a grade of B- or better in ACC 211 and a grade of C- or better in ACC 212. Accounting minors that have taken ACC 210 must have a grade of B- or better.

Economics

Department Chair Contact Information

Telephone: 256.824.6590

Email: ECN@uah.edu

Mission

The Department of Accounting, Economics, and Finance provides academically rigorous programs in accounting, economics, and finance. We strive to teach sound principles and concepts as well as the analytical tools for applications to practical business problems. Through its scholarly activity, the departmental faculty develops and disseminates knowledge related to accounting, economics and finance theory, pedagogy, and practice.

Economics

Economics is a way of thinking about the world. By studying economics you learn how to take complex issues and boil them down to their essence—to see through the messy details to the core of a situation. You'll become a better thinker and a better decision maker. The Economics and Computational Analysis degree program teaches you how to combine economic models, computational tools, and econometric methods to improve business and social decision-making, evaluate economic development strategies, identify entrepreneurial opportunities, and analyze public policy in a world that continues to change the way people communicate, perceive their world, make decisions, and conduct business.

We teach two fundamental skills in our economics program:

1. how to think about complex problems and
2. how to identify and analyze the data you need to solve those problems

These skills are needed desperately in almost all fields. Economists work in many career fields, including banking, international trade, entrepreneurship, finance, national security, consulting, and government. Economics also serves as an excellent foundation for graduate study in law, economics, public policy, business analytics, and other business fields.

We encourage our students to pursue a minor or double major in another discipline because economics blends so smoothly with other programs across the campus. To facilitate this combination of disciplines, our economics degree requirements are very flexible, and many students can double major and still graduate in four years.

The BS in Economics & Computational Analysis is designed to be easily coupled with a minor or a double major in another discipline such as finance, sociology, psychology, political science or many others. The degree requirements are very flexible, and many students can double major and still graduate in four years.

- Economics and Computational Analysis, BS (p. 286)

The minor in Economics is available to students from any college, including students pursuing a degree in Business Administration.

- Economics (p. 291)

ECN 142 - PRINC OF MACROECONOMICS

Semester Hours: 3

How does our economy function? Why do we have periods of unemployment and inflation and what can we do about it? Economics is a way of thinking about the world, how to identify and focus on fundamental issues so we can understand our economy and how monetary and fiscal policy affects our lives. Prerequisite: any 100 level or 200 level MA course.

ECN 143 - PRINC OF MICROECONOMICS

Semester Hours: 3

How do markets coordinate our unlimited wants with our limited capacity to produce? We study producer and consumer choice in a variety of market structures, the social welfare implications inherent in market systems, and policies designed to correct those market failures. Prerequisite: Any 100 level or 200 level MA course.

ECN 340 - MACRO ECONOMIC ANALYSIS

Semester Hours: 3

A comprehensive study of the nation's economic system. How interdependent market systems determine income, consumption, saving, investment, interest, employment, and the aggregate price level. Determinants of economic growth and the effects of monetary and fiscal policy are central issues. Prerequisites: ECN 142 and ECN 143.

ECN 345 - MICRO ECONOMIC ANALYSIS

Semester Hours: 3

This course provides an informed perspective of, and ability to use, microeconomic theory. We develop the analytical tools needed to solve problems and focus on the logical foundations of these tools. Core topics include consumer behavior, production, exchange, markets, and game theory. Prerequisites: ECN 142 and ECN 143.

ECN 352 - MONEY AND BANKING

Semester Hours: 3

Organization, operation, and economic significance of monetary and banking systems. Fractional reserve banking systems, money creation, the Federal Reserve System, U.S. financial intermediaries. Introduction to monetary theory and international finance. Prerequisites: ECN 142 and ECN 143.

ECN 406 - SPORTS ECONOMICS

Semester Hours: 3

The course uses economic tools to study market outcomes in sports: the market for talent, labor relations, and the role of government. Specific topics include the demand for sports, sports franchises, and the theory of the firm, compensation of player talent, economics of stadiums, and sports media. Prerequisite: ECN 143.

ECN 411 - ECONOMICS INFORMATION TECH

Semester Hours: 3

Explores economic theories of consumer and firm behavior and strategy in the information technology industry with emphasis on applying formal tools of analysis in real-world contexts. Core topics include cost structures, non-competitive markets, network effects, and game theory. Prerequisites: ECN 143 and MA 120.

ECN 445 - APPLIED GAME THEORY

Semester Hours: 3

An introduction to game theory and its applications. Students will explore the use of games to understand strategic interactions and apply them to business and other real-world contexts. Prerequisite: ECN 143.

ECN 450 - INTERNATIONAL BUSINESS

Semester Hours: 3

Cross-discipline course combining theoretical and practical aspects of doing business in the global market. Three modules consisting of international management, marketing and economic/finance cover topics including the legal, socio-political environment, negotiations/diplomacy, import/export mechanics, international distribution, balance of payments, hedging, trade agreements (GATT), and international business strategy.

ECN 454 - INTERNATIONAL ECONOMICS

Semester Hours: 3

Behavior of foreign exchange rates under different monetary standards, methods of financing international trade, historical development of international financial institutions, current and proposed methods for fostering international trade, and problems of international liquidity. Prerequisite: FIN 301.

ECN 461 - ECONOMIC DEVELOPMENT

Semester Hours: 3

Understand economic development in the developing world. Examine economic transformation and social justice. Highlight domestic and international institutional, structural, and political sources of economic dynamism/lack thereof in the Global South. Prerequisites: Junior or Senior standing.

ECN 470 - SEMINAR IN ECONOMICS

Semester Hours: 3

Extensive readings and reports reflecting current developments and trends in economic theory and its application to the decision-making process in business and government.

ECN 475 - LABOR ECONOMICS

Semester Hours: 3

Economic analysis of labor markets; labor demand and labor supply at the market and individual level. Topics include individual decisions to supply labor, compensating wage differentials, human capital investment, discrimination in labor markets, pay and productivity, and the role of labor unions. Prerequisite: ECN 143.

ECN 480 - INTRO ECONOMETRICS

Semester Hours: 3

An introduction to the quantitative measurement and analysis of actual economic and business phenomena. Prerequisite: MSC 288 or equivalent statistics.

ECN 481 - RESEARCH PRACTICUM

Semester Hours: 3

The economics research practicum is designed to give students research experience. With the approval of one of the economics professors, a student teams up with a professor who mentors them through a research project. Prerequisites: ECN 340 and ECN 345.

ECN 490 - SPECIAL PROJECTS

Semester Hours: 3

Faculty guided Independent Study in an area of interest to the student and faculty member. Approval of department chair is required.

ECN 499 - AGENT-BASED COMPUTA ECON

Semester Hours: 3

Computational Economics introduces students to complex dynamic economic systems. Agent-based computational economics builds systems piece by piece - individual economic agents are constructed and placed in a virtual environment. This creates a virtual laboratory for economic experimentation. Prerequisites: ECN 340 and ECN 345.

Economics and Computational Analysis, BS

Economics and Computational Analysis, BS

- BS degree requires 120 credit hours.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.

- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC	

or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Charger Foundations		41
Additional Lower Division Economics Degree Requirements		19
Courses in this area may also fulfill Charger Foundations requirements.		
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
100-400 level free elective (9 hours)		
FYE 101	CHARGER SUCCESS (1 hour)	
or HON 101	INTRO TO HONORS RESEARCH	
or BUS 300	BUSINESS TRANSITIONS	
Upper Division Economics Degree Requirements		24
ECN 340	MACRO ECONOMIC ANALYSIS	
ECN 345	MICRO ECONOMIC ANALYSIS	
ECN 411	ECONOMICS INFORMATION TECH	
ECN 475	LABOR ECONOMICS	
Select 12 semester hours from the following:		
ECN 352	MONEY AND BANKING	
ECN 406	SPORTS ECONOMICS	
ECN 445	APPLIED GAME THEORY	
ECN 461	ECONOMIC DEVELOPMENT	
ECN 470	SEMINAR IN ECONOMICS	
ECN 480	INTRO ECONOMETRICS	

ECN 490	SPECIAL PROJECTS	
ECN 499	AGENT-BASED COMPUTA ECON	
FIN 454	INTERNATIONAL FINANCE	
FIN 490	SPECIAL PROJECTS	
Upper Division Electives		15
Minor/Second Major		21
Total Hours		120

- ¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.
- ² BS-ECA students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Lower Division Economics Degree Requirements.

Year 1

Fall		Semester Hours
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Humanities elective (Non-Literature)		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16

Year 2

Fall		
ECN 143	PRINC OF MICROECONOMICS	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Minor elective		3
Term Semester Hours:		16
Spring		
MSC 288	BUSINESS STATISTICS II	3
ECN 340	MACRO ECONOMIC ANALYSIS	3
Minor elective		3
Humanities/Fine Arts elective		3
100-400 level free elective		3
Term Semester Hours:		15

Year 3**Fall**

ECN 345	MICRO ECONOMIC ANALYSIS	3
300-400 level ECN elective		3
100-400 level free elective		3
Minor elective		3
Minor elective		3
Term Semester Hours:		15
Spring		
300-400 level upper division elective		3
300-400 level upper division elective		3
300-400 level ECN elective		3
100-400 level free elective		3
Minor elective		3
Term Semester Hours:		15
Year 4		
Fall		
ECN 411	ECONOMICS INFORMATION TECH	3
ECN 475	LABOR ECONOMICS	3
300-400 level upper division elective		3
300-400 level ECN elective		3
Minor elective		3
Term Semester Hours:		15
Spring		
300-400 level upper division elective		3
300-400 level upper division elective		3
300-400 level ECN elective		3
Minor elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Economics Minor

Students can minor in economics by taking 18 semester hours of economics courses. A total of 12 semester hours must be at the 300 level or above. ECN 142 and ECN 143 may be counted in both the Charger Foundations and in the economics minor.

For students pursuing a BSBA degree, the 300-400 level ECN elective and any 300-400 level ECN major course may be counted in the economics minor.

Code	Title	Semester Hours
Required Courses		18
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
ECN 340	MACRO ECONOMIC ANALYSIS	
ECN 345	MICRO ECONOMIC ANALYSIS	
Select 6 semester hours from the following:		
ECN 352	MONEY AND BANKING	
ECN 406	SPORTS ECONOMICS	
ECN 411	ECONOMICS INFORMATION TECH	
ECN 445	APPLIED GAME THEORY	
ECN 454	INTERNATIONAL ECONOMICS	

ECN 461	ECONOMIC DEVELOPMENT
ECN 470	SEMINAR IN ECONOMICS
ECN 475	LABOR ECONOMICS
ECN 480	INTRO ECONOMETRICS
ECN 499	AGENT-BASED COMPUTA ECON

Any 300-400 level ECN elective

Total Hours

18

Finance

Department Chair Contact Information

Telephone: 256.824.6590

Email: fin@uah.edu

Mission

The Department of Accounting, Economics, and Finance provides academically rigorous programs in accounting, economics, and finance. We strive to teach sound principles and concepts as well as the analytical tools for applications to practical business problems. Through its scholarly activity, the departmental faculty develops and disseminates knowledge related to accounting, economics and finance theory, pedagogy, and practice.

Finance

Finance careers vary widely in today's complex, global economy. Finance graduates may have careers in banking, investments, corporate finance, and federal contract management. Graduates may find themselves helping investment clients develop and monitor investment portfolios for retirement, managing a bank office, making multi-million dollar loans to corporations, taking a private firm public so its stock can be traded on stock exchanges, or managing the budget of a multi-billion dollar federal project.

- BSBA, Finance (p. 293)

The College of Business offers a Finance minor for business students who want additional knowledge in the subject but do not want a Finance major. Students from other colleges are able to complete this minor.

- Finance Minor (p. 299)

FIN 100 - PERSONAL FINANCIAL PLANNING

Semester Hours: 3

An introduction to the study of personal money management. Topics include budgeting, home ownership, insurance, investing, and retirement planning. Cannot be used by finance majors as an elective in the major.

FIN 230 - FINANCE ACADEMY I

Semester Hour: 1

Designed to enhance the learning experience for students majoring in finance, economics, and accounting. Students get a "jump-start" on learning and applying basic finance knowledge and skills, including Excel spreadsheets. Also includes activities designed to develop "soft skills" such as professionalism, speaking, and working in teams/groups. Students begin to manage an actual investment portfolio.

FIN 301 - PRINCIPLES OF FINANCE

Semester Hours: 3

A study of the basic principles of modern finance: financial statement analysis, time value of money, security valuation, risk and return, capital investment, cost of capital, and international finance. Prerequisites: ECN 143, ACC 210 or ACC 212 and MSC 287, SOC 303, PY 300, MA 385, or ISE 390.

FIN 330 - FINANCE ACADEMY II

Semester Hour: 1

A continuation of FIN 230. Students learn and apply the tools and knowledge to begin analyzing companies for investment, including TVM, ratio analysis, equity investment fundamentals, and more advanced Excel techniques. Emphasis is placed on individual stock analysis and students propose stocks for the Chan Fund. Prerequisite: FIN 230.

FIN 352 - MONEY & BANKING

Semester Hours: 3

Organization, operation, and economic significance of monetary and banking systems. Fractional reserve banking systems, money creation, the Federal Reserve System, U.S. financial intermediaries, introduction to monetary theory and international finance. Prerequisites: ECN 143.

FIN 370 - COMMERCIAL BANK MANAGEMENT

Semester Hours: 3

A study of the financial management of commercial banks emphasizing both current events and principles of sound management. Topics range from measuring bank performance, asset and liability management, risk management, and international banking.

FIN 375 - FINANCIAL INSTITUTIONS

Semester Hours: 3

Role and activities of financial intermediaries as they affect flow of funds and capital formation money markets in which these institutions operate.

FIN 378 - INTERMEDIATE CORPORATE FINANCE

Semester Hours: 3

Financial theory as it relates to long-term and short-term financial planning, capital investment decisions, and capital structure policy decisions.

Prerequisites: FIN 301.

FIN 400 - INVESTMENT PRACTICUM

Semester Hours: 4

Small number of students work closely with finance faculty in the UAH Capital Management Group (CMG) to manage actual investment portfolios. Emphasis is placed on individual stock selection and management of the portfolio to meet objectives. Prerequisites: FIN 460 or permission of instructor.

FIN 430 - FINANCE ACADEMY III

Semester Hour: 1

A continuation of FIN 330. Emphasis is on the management of the Chan Fund. Students learn different aspects of the portfolio management process, and serve as the portfolio manager for the Chan Fund. Prerequisite: FIN 330.

FIN 431 - ADVANCED CORPORATE FINANCE

Semester Hours: 3

Financial principles applied to financial management problems such as cash management, payables and receivables management, cost of short-term credit, and forecasting and financial planning. Prerequisite: FIN 378.

FIN 454 - INTERNATIONAL FINANCE

Semester Hours: 3

An introduction to international finance for tomorrow's global business leaders, with a focus on the financial management dimensions of leading a multinational enterprise. Prerequisites: FIN 301.

FIN 460 - INVESTMENTS

Semester Hours: 3

A study of standard investment securities, as well as an overall view of the investment process. Securities covered include equities, fixed income, options, futures and mutual funds. Associated topics include financial markets, valuation models, and fundamental portfolio theory. Prerequisites: FIN 301.

FIN 461 - PORTFOLIO MANAGEMENT

Semester Hours: 3

A continuation of FIN 460 with an emphasis on the application of investment portfolio management. An understanding of the functional areas of portfolio management is stressed, including investment policy, investment strategy, portfolio construction, performance evaluation, and portfolio protection.

Prerequisites: FIN 301 and FIN 460 both with minimum grade of B-.

FIN 490 - SPECIAL PROJECTS

Semester Hours: 3

Independent study in an area of interest to the student in the field of finance. Approval of department chair is required.

FIN 495 - INTERNSHIP IN FINANCE

Semester Hours: 1-3

Active involvement in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Subject to College's guidelines on internships.

Finance, BSBA

BSBA, Finance

- BSBA degree requires 120 credit hours.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- For graduation application instructions, see here (<https://catalog.uah.edu/undergrad/policies-procedures/application-graduation/>).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN	

or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12**

Mathematics

3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)

8

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I

PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS	
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS	
BLS 211	LEGAL ENVIRON/BUSINESS	
IS 146	COMPUTER APPL IN BUSINESS	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING	
CM 313	BUSINESS & PROFESSIONAL COMM	
Select one 300-400 level ECN elective		

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

- ² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations, and Area V: Pre-Professional Requirements.

Code	Title	Semester Hours
Upper Division Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
General Finance Concentration		21
FIN 375	FINANCIAL INSTITUTIONS	
FIN 378	INTERMEDIATE CORPORATE FINANCE	
FIN 431	ADVANCED CORPORATE FINANCE	
FIN 454	INTERNATIONAL FINANCE	
FIN 460	INVESTMENTS	
Select 6 hours from the following major electives:		
FIN 490	SPECIAL PROJECTS	
FIN 461	PORTFOLIO MANAGEMENT	
FIN 230	FINANCE ACADEMY I (1 credit hour)	
FIN 330	FINANCE ACADEMY II (1 credit hour)	
FIN 430	FINANCE ACADEMY III (1 credit hour)	
ACC 310	INTERM FINANCIAL ACCT I	
ACC 313	INDIVIDUAL/SMALL BUS INCOME TA	
ACC 414	COST ACCOUNTING	
ECN 340	MACRO ECONOMIC ANALYSIS	
ECN 345	MICRO ECONOMIC ANALYSIS	
ECN 352	MONEY AND BANKING	
ECN 475	LABOR ECONOMICS	
MGT 401	INTRO TO CONTRACT MANAGEMENT	
MGT 403	CONTRACT PRICING & COST ANALYS	
BLS 406	GOVERNMENT CONTRACT LAW	
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120
Year 1		
Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
FYE 101	CHARGER SUCCESS	1
Fine Arts elective		3
History		3
Term Semester Hours:		16

Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3

Term Semester Hours: 16

Year 2**Fall**

ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
ECN 143	PRINC OF MICROECONOMICS	3
EH 207	READINGS LITERATURE/CULTURE I	3
or EH 208	or READINGS LITERATURE/CULTURE 2	
FIN 230	FINANCE ACADEMY I	1
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: 17

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
MSC 288	BUSINESS STATISTICS II	3
Humanities elective (Non-Literature)		3
Humanities/Fine Arts elective		3

Term Semester Hours: 15

Year 3**Fall**

EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
FIN 375	FINANCIAL INSTITUTIONS	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 301	MANAGING ORGANIZATIONS	3

Term Semester Hours: 15

Spring

MSC 385	OPERATIONS ANALYSIS	3
MKT 301	PRINCIPLES OF MARKETING	3
FIN 330	FINANCE ACADEMY II	1
FIN 454	INTERNATIONAL FINANCE	3
Major elective		3

Term Semester Hours: 13

Year 4**Fall**

CM 313	BUSINESS PROFESSIONAL COMM	3
FIN 378	INTERMEDIATE CORPORATE FINANCE	3
FIN 460	INVESTMENTS	3
MGT 450	INTERNATIONAL BUSINESS	3
100-400 level free elective		3

Term Semester Hours: 15

Spring

FIN 430	FINANCE ACADEMY III	1
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FIN 431	ADVANCED CORPORATE FINANCE	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ECN elective		3
300-400 level business elective		3
Term Semester Hours:		13
Total Semester Hours:		120

Finance Minor

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

Code	Title	Semester Hours
Required Courses		21-22
ACC 201 or ACC 211 or ACC 210	ACCOUNTING & FINANCE FOR ENTREPRENEURS PRINC OF FINANCIAL ACCOUNTING ACCOUNTING FOR BUSINESS	
ECN 143	PRINC OF MICROECONOMICS	
MSC 287 or ISE 390 or MA 385 or PY 300 or SOC 303	BUSINESS STATISTICS I PROB & ENGR STATISTICS I INTRO TO PROBABILITY & STATIST PSYCHOLOGICAL STATISTICS STATISTICS/SOCIAL SCIENCES	
FIN 301	PRINCIPLES OF FINANCE	
FIN 375	FINANCIAL INSTITUTIONS	
FIN 460	INVESTMENTS	
Select one 300-400 level FIN elective		
Total Hours		21-22

General Business, BSBA

BSBA, General Business Requirements

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	

ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	

ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	

PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
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Area V: Pre-Professional Courses

31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101	CHARGER SUCCESS (1 hour)
or HON 101	INTRO TO HONORS RESEARCH
or BUS 300	BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
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Upper Division Business Degree Requirements

21

FIN 301	PRINCIPLES OF FINANCE
IS 301	INFO SYSTEMS IN ORGANIZATIONS
MGT 301	MANAGING ORGANIZATIONS
MKT 301	PRINCIPLES OF MARKETING
MSC 385	OPERATIONS ANALYSIS
MGT 450	INTERNATIONAL BUSINESS
MGT 499	COMPETITIVE STRATEGY

General Business Major Requirements

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Select eight upper division business electives (300-400 level) or Select seven upper division business electives (300-400 level) and one of the following:

EH 301	TECHNICAL WRITING (if not already selected in Area V)
MU 407	INTERNSHIP MUSIC BUSINESS

Free Electives

3

Select 3 semester hours of free electives

Total Hours**120****Year 1**

Fall		Semester Hours
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3

Term Semester Hours: 16
Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3

Term Semester Hours: 16
Year 2

Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: 16
Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3

Term Semester Hours: 15
Year 3

Fall		
FIN 301	PRINCIPLES OF FINANCE	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
Humanities/Fine Arts elective		3
300-400 level business elective		3
300-400 level business elective		3

Term Semester Hours: 15
Spring

CM 313	BUSINESS PROFESSIONAL COMM	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
MSC 385	OPERATIONS ANALYSIS	3

300-400 level business elective		3
300-400 level business elective		3
Term Semester Hours:		15
Year 4		
Fall		
Humanities (Non-Literature)		3
300-400 level business elective		3
300-400 level business elective		3
300-400 level business elective		3
100-400 level free elective		3
Term Semester Hours:		15
Spring		
MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level business elective		3
300-400 level ECN elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Information Systems

Department Chair Contact Information

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Email: is@uah.edu

Mission

The Department of Information Systems, Supply Chain, and Analytics provides academically rigorous instruction on the use of analytical tools and theoretical concepts in information systems, management, management science, and marketing to help students understand and apply them to practical business problems in scientific, technological and traditional business environments, non-profits, and government agencies. The departmental faculty also develops and disseminates knowledge on diverse topics related to cybersecurity, management, management science, and marketing.

Information Systems

The major in information systems (IS) is designed for students who want to become administrators or designers of information systems that utilize computers in business or administrative environments. IS subject matter includes computer hardware, computer software, database design, data communication, electronic commerce, systems analysis and design methodologies, information assurance, and behavioral issues and business or administrative context within which computer systems are applied.

We encourage Information Systems majors to use the upper division business elective in their degree program to take IS 495 (<https://catalog.uah.edu/search/?P=IS%20495>), Internship in Information Systems.

There are two concentrations within the information systems major:

- Information Systems, BSBA - Cybersecurity Concentration (p. 307)
- Information Systems, BSBA - General Information Systems Concentration (p. 312)

With the growing importance of information technology and high tech environment of Huntsville, there is a growing need for students to bolster their technical credentials. The minor in Information Systems is designed to provide students in any major with coverage of basic Information Systems topics.

It provides students with the flexibility to design their minor to match their interests in other business areas with significant overlap with information technology.

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

Code	Title	Semester Hours
Required Courses:		18
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
IS 310	ADVANCED PROGRAMMING	
IS 340	DATABASE MANAGEMENT	
IS 412	SYSTEMS ANALYSIS & DESIGN	
Select 6 hours from the following:		
ACC 307	ACCOUNTING INFORMATION SYS	
IS 351	ENT & SUPPLY CHAIN MGT SYSTS	
IS 401	CYBERSECURITY PRINCIPLES	
IS 460	NETWORKING & IT INFRASTRUCTURE	
IS 471	BUSINESS ANALYTICS & AI	
ECN 411	ECONOMICS INFORMATION TECH	
MKT 350	MARKETING EMERGING TECHNOLOGY	
MKT 470	SOCIAL MEDIA MARKETING	
Total Hours		18

IS 146 - COMPUTER APPL IN BUSINESS

Semester Hours: 3

Study of computer solutions to business problems. Overview of hardware/software systems and of data and information processing in organizations. Extensive use of Microsoft Office and other software for word processing, spreadsheet, presentation, and database applications related to business.

IS 210 - INTRO COMP PROG IN BUS

Semester Hours: 3

Fundamentals of business programming using languages such as Python, PHP, JavaScript, JQuery and HTML5. Prerequisite: IS 146.

IS 301 - INFO SYSTEMS IN ORGANIZATIONS

Semester Hours: 3

Understanding the role of information systems in organizations and how they relate to organizational objectives and organizational structure. Introduce information system applications and the SAP software to illustrate the concepts covered in this course. Prerequisite: IS 146.

IS 310 - ADVANCED PROGRAMMING

Semester Hours: 3

This second level programming course introduces advanced programming concepts with more complex I/O, file and data handling, object oriented programming, testing and quality and maintenance. The course focuses on developing solutions for business problems. Prerequisite: IS 210 or equivalent programming course.

IS 340 - DATABASE MANAGEMENT

Semester Hours: 3

Organizing and managing the data resources of an organization using information technology. The course covers modeling and design of databases for organizations. It will also cover query, reporting and visualization of data for supporting decision-making by managers. Students will be introduced to the technologies that support business analytics and basics of analytics.. Prerequisite: IS 301.

IS 351 - ENT & SUPPLY CHAIN MGT SYSTS

Semester Hours: 3

This course emphasizes the importance of integration of processes within an enterprises and across enterprises in a supply chain and the systems used to support these processes. Enterprise systems support the internal logistics chain within a firm integrating processes across all functions. Students will learn about the digital transformation taking place within the firm and across the firm's supply chain. The course will introduce students to processes and systems that firms use to harness the capabilities of their supply chain partners and supply networks. Prerequisites: IS 301.

IS 401 - CYBERSECURITY PRINCIPLES

Semester Hours: 3

Provides a managerial and technical overview of cybersecurity and introduces students to the complexity of the security issues facing organizations. Presents practices and standards for assessing security risks and managerial and technical approaches to minimize such risks. Prerequisite: IS 301.

IS 412 - SYSTEMS ANALYSIS & DESIGN

Semester Hours: 3

Identifying, analyzing, developing and acquiring information systems are central to the information systems discipline. The course covers identifying, conceptualizing and analyzing business opportunities where information systems applications can add value followed by design, development, and implementation of such applications. Planning for and management of this core IS activity is a critical organizational competence. Prerequisites: IS 301, IS 310, and IS 340.

IS 422 - SUPPLY CHAIN MANAGEMENT SYSTEM

Semester Hours: 3

This course presents the main concepts of supply chain management systems and software including ERP, CRM and SCM systems as well as the underlying technologies and managerial implications. It provides hands-on familiarity with SAP supply chain modules. Prerequisite: IS 301.

IS 450 - CYBERSECURITY MANAGEMENT

Semester Hours: 3

Examines management issues associated with cybersecurity system planning, implementation, control and assurance. Specific emphasis is on security system controls and their evaluation, compliance, governance, security policies, ethical and legal issues, and risk management. Recent developments in IT, such as client-server systems, cloud computing and the Internet, and their impact on policies, laws are also considered. Prerequisite: IS 301.

IS 460 - NETWORKING & IT INFRASTRUCTURE

Semester Hours: 3

An overview of the IT infrastructure in modern organizations. The course starts from basic networking concepts to digital platforms and ecosystems in the market. Prerequisite: IS 301.

IS 463 - DIGITAL FORENSICS

Semester Hours: 3

Provides an introduction to the area of digital forensics. Examines the problems and concerns related to Cybersecurity forensic investigations. Blends traditional investigation methods with classic systems-analysis problem-solving techniques and applies them to computing investigations. This course is lab intensive and students are expected to gain hands-on experience through learning to use various forensic software. Several information security topics nonspecific to forensics will also be covered. Prerequisite: IS 401.

IS 471 - BUSINESS ANALYTICS & AI

Semester Hours: 3

The course covers the use of data analytics to support decision-making in organizations and gain insights to support tactics and strategy. In addition to analytics, students will also be introduced to Artificial Intelligence (AI) techniques for analytics. Students will use many business analytics tools and gain experience in mining data. The course is designed to develop data-analytic thinking in the era of big data. Prerequisites: IS 301, IS 310 and MSC 288.

IS 477 - NETWORK DEFENSE & SECURITY

Semester Hours: 3

Introduction to network security issues and practical applications. Addresses translation, packet filtering, proxy servers, and firewalls, and Virtual Private Networks. This course assumes familiarity with internet and basic networking concepts such as TCP/IP, gateways, routers, and Ethernet. Prerequisites: IS 401 and IS 460.

IS 480 - CURRENT TOPICS IN MGT INFO SYS

Semester Hours: 3

Prerequisite: IS 301.

IS 490 - SPECIAL PROJECTS

Semester Hours: 3

IS 491 - IS MANAGEMENT & STRATEGY

Semester Hours: 3

This course emphasizes the integration of various principles, theories, and techniques for implementing, deploying and managing enterprise information systems in organizations to gain strategic and operational advantages. Includes lectures, tours, readings, cases, and the completion of a major project. Normally taken during a student's last semester of studies. Prerequisites: IS 340 and either IS 351 or 460. Prerequisite with concurrency: IS 412.

IS 495 - INTERN IN INFO SYSTEMS

Semester Hours: 1-3

Information Systems, BSBA - Cybersecurity Concentration

BSBA, Information Systems Requirements (Cybersecurity Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE	

or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I

11-12

3-4

8

CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300	STRATEGIES FOR BUSINESS WRIT'G

or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

- ¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.
- ² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Information Systems Major Requirements (Cybersecurity Concentration)		24
IS 210	INTRO COMP PROG IN BUS	
or CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
or ENG 101	INTRO COMPUTING ENGINEERS	
IS 310	ADVANCED PROGRAMMING	
IS 340	DATABASE MANAGEMENT	
IS 401	CYBERSECURITY PRINCIPLES	
IS 450	CYBERSECURITY MANAGEMENT	
IS 460	NETWORKING & IT INFRASTRUCTURE	
IS 463	DIGITAL FORENSICS	
IS 477	NETWORK DEFENSE & SECURITY	
Total Hours		120
Year 1		
Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4

Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		
Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 212	MANAGEMENT ACCOUNTING	3
IS 210	INTRO COMP PROG IN BUS	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MSC 288	BUSINESS STATISTICS II	3
EH 207	READINGS LITERATURE/CULTURE I	3
Term Semester Hours:		15
Year 3		
Fall		
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G or TECHNICAL WRITING	3
IS 310	ADVANCED PROGRAMMING	3
IS 340	DATABASE MANAGEMENT	3
MGT 301	MANAGING ORGANIZATIONS	3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Spring		
CM 313	BUSINESS PROFESSIONAL COMM	3
IS 401	CYBERSECURITY PRINCIPLES	3
FIN 301	PRINCIPLES OF FINANCE	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 385	OPERATIONS ANALYSIS	3
Term Semester Hours:		15
Year 4		
Fall		
IS 450	CYBERSECURITY MANAGEMENT	3
IS 460	NETWORKING IT INFRASTRUCTURE	3
IS 463	DIGITAL FORENSICS	3
300-400 level upper level business elective		3
Humanities (Non-Literature)		3
Term Semester Hours:		15
Spring		
IS 477	NETWORK DEFENSE SECURITY	3
MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ECN elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Information Systems, BSBA- General Information Systems Concentration

BSBA, Information Systems Requirements (General Information Systems Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN	

or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I

CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31
Courses in this area may also fulfill Charger Foundations requirements		
FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS	
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS	
BLS 211	LEGAL ENVIRON/BUSINESS	
IS 146	COMPUTER APPL IN BUSINESS	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
EH 300	STRATEGIES FOR BUSINESS WRIT'G	

or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Information Systems Major Requirements		24
IS 210	INTRO COMP PROG IN BUS	
or CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
or ENG 101	INTRO COMPUTING ENGINEERS	
IS 310	ADVANCED PROGRAMMING	
IS 340	DATABASE MANAGEMENT	
IS 351	ENT & SUPPLY CHAIN MGT SYSTS	
IS 412	SYSTEMS ANALYSIS & DESIGN	
IS 471	BUSINESS ANALYTICS & AI	
IS 491	IS MANAGEMENT & STRATEGY	
Select one of the following:		
IS 401	CYBERSECURITY PRINCIPLES	
or IS 460	NETWORKING & IT INFRASTRUCTURE	
Total Hours		120

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3

MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		
Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 212	MANAGEMENT ACCOUNTING	3
IS 210	INTRO COMP PROG IN BUS	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MSC 288	BUSINESS STATISTICS II	3
EH 207	READINGS LITERATURE/CULTURE I	3
Term Semester Hours:		15
Year 3		
Fall		
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G or TECHNICAL WRITING	3
IS 310	ADVANCED PROGRAMMING	3
IS 340	DATABASE MANAGEMENT	3
IS 351	ENT SUPPLY CHAIN MGT SYSTS	3
MGT 301	MANAGING ORGANIZATIONS	3
Term Semester Hours:		15
Spring		
IS 401 or IS 460	CYBERSECURITY PRINCIPLES or NETWORKING & IT INFRASTRUCTURE	3
IS 412	SYSTEMS ANALYSIS DESIGN	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 385	OPERATIONS ANALYSIS	3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 4		
Fall		
CM 313	BUSINESS PROFESSIONAL COMM	3
FIN 301	PRINCIPLES OF FINANCE	3
IS 471	BUSINESS ANALYTICS AI	3
300-400 level upper level business elective		3
Humanities (Non-Literature)		3
Term Semester Hours:		15
Spring		
IS 491	IS MANAGEMENT STRATEGY	3
MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3

300-400 level ECN elective

3

Term Semester Hours:

12

Total Semester Hours:

120

Information Systems Minor

Management

Department Chair Contact Information

Telephone: 256.824.6680

Email: mgt@uah.edu

Mission

The Department of Management and Marketing provides academically rigorous instruction on the use of analytical tools and theoretical concepts in management and marketing to help students understand and apply them to practical business problems in scientific, technological and traditional business environments, non-profits, and government agencies. The departmental faculty also develops and disseminates knowledge on diverse topics related to management and marketing.

Management

A major in management prepares students for a wide range of professional managerial occupations. The management major is structured to provide the broad education students will need for flexibility and mobility as future managers in business, non-profit, or governmental organizations. Students may elect one of four concentrations.

The Human Resource Management (<https://catalog.uah.edu/undergrad/colleges-departments/business/management/management-bsba-human-resource-management-concentration/>) concentration focuses on managing human behavior in organizations and the organizational functions of human resource management. This concentration is appropriate for students planning to work in positions with responsibilities for compensation management, employee relations, recruiting, staffing, human resource planning, training and development, and union-management relations.

The Acquisition Management (<https://catalog.uah.edu/undergrad/colleges-departments/business/management/management-bsba-acquisition-management-concentration/>) concentration focuses on the management of government contracts. It includes pre and post-award contract administration, cost and price analysis, contract negotiation, and government contract law. This concentration is designed to prepare students for entry-level professional positions in acquisition management with the federal government or in similar positions with government contractors.

The Supply Chain Management (<https://catalog.uah.edu/undergrad/colleges-departments/business/management/management-bsba-supply-chain-management-concentration/>) concentration focuses on transportation, logistics, inventory management, distribution operations, and information systems as applied to supply chain integration, and on strategic decision making in the management of a firm's supply chain. The concentration is designed to prepare students for careers in military logistics with the Department of Defense and for managing supply chains in private sector firms.

The General Management (<https://catalog.uah.edu/undergrad/colleges-departments/business/management/management-bsba-general-management-concentration/>) concentration is offered for students whose career goals require a broad knowledge of the functional areas of management rather than a specialization in a particular field. This concentration allows students maximum flexibility in customizing their major field coursework to fit their particular career ambitions. For example, students considering careers in international business may wish to plan their program of study to accommodate such career goals.

There are four concentrations within the management major:

- Management, BSBA - Human Resource Management Concentration (p. 330)
- Management, BSBA - Acquisition Management Concentration (p. 320)
- Management, BSBA - Supply Chain Management Concentration (p. 335)
- Management, BSBA - General Management Concentration (p. 325)

Minors in Management

The College of Business offers several minors in business and management topics for students from across campus. Students from other colleges are able to complete any of these minors.

- Business (p. 340)
- Entrepreneurship (p. 340)
- Human Resource Management (p. 341)
- Management and Leadership (p. 342)

MGT 100 - INTRO TO BUSINESS

Semester Hours: 1-3

Career options for students interested in business are stressed. Fundamentals of business organizations, effective management and the functions of business are explored.

MGT 101 - INTRO ENTREPRENEURSHIP

Semester Hours: 3

Introduction to the startup of a new business and the entrepreneurial career. Focuses on elementary concepts of planning, financing, developing, and managing a new business.

MGT 301 - MANAGING ORGANIZATIONS

Semester Hours: 3

Introduces management theories, roles, functions, and processes that facilitate the successful operation of organizations. Provides overviews of the following topics: managerial roles and functions, the strategic management process, organizational structure, organizational theory and behavior, and the human resource management function.

MGT 320 - CAREER DEVELOPMENT

Semester Hours: 3

Concepts drawn from theories on career development, human capital, social networks, labor markets, and strategic management will provide a theoretical foundation for students to formulate short and long-term career goals and a strategic plan for achieving those goals.

MGT 361 - ORGANIZATIONAL BEHAVIOR

Semester Hours: 3

Behavioral science approach to the study of individual performance. Performance evaluation, job design, employee turnover, organizational culture, communication process, work motivation, leadership, group dynamics, and organizational development. Prerequisite: MGT 301.

MGT 363 - HUMAN RESOURCE & LABOR REL MGT

Semester Hours: 3

Theories and practices related to human resource management functions, including strategic planning, internal and external staffing, training and development, compensation management, employee and labor relations, and international human resource management. Prerequisite with concurrency: MGT 301.

MGT 401 - INTRO TO CONTRACT MANAGEMENT

Semester Hours: 3

General survey in contracting basics, covering procedures as described by Federal Acquisition Regulations, statutes, ethics, policies, and other pertinent authorities.

MGT 402 - CONTRACT EVALUATION & AWARD

Semester Hours: 3

Study of the evaluation, award, and post-award aspects of the contracting process, focusing on federal government contracting. Covers acquisition and past performance evaluation; the proposal receipt process; and post-award contract administration, closeout, modifications, and dispute resolution. Prerequisite: MGT 401.

MGT 403 - CONTRACT PRICING & COST ANALYS

Semester Hours: 3

Study of methods of price analysis and cost estimation and analysis. Covers data sources, legal requirements, rates, definitions, projection methods, factors affecting profits/fees, the weighted guidelines technique, statistical analysis methods, and learning curve theory.

MGT 405 - NEW VENTURE STRATEGIES

Semester Hours: 3

Theory and application of strategies for start-up, operation, and control of new ventures. Roles of entrepreneurship in the economy. Case studies of corporate and independent new ventures. Prerequisite: MGT 301 and MKT 301.

MGT 408 - TEAMWORK & TEAM PROCESSES

Semester Hours: 3

This course provides an introduction to teams and teamwork processes. The foundation of the course is research-based; topics will be approached from the context of empirical research. The types of research designs that are typically used in team research are addressed. Junior standing required.

MGT 410 - LEADERSHIP, PERSONAL DEV & ORG

Semester Hours: 3

The focus of this course is on the in-depth self-examination of skills, ability, personality, attitudes, values and behavior to increase self-awareness of leadership competencies. Students will also examine theories of leadership to develop insights for their personalized leadership development.

Prerequisite: MGT 301.

MGT 411 - SUPPLY CHAIN MANAGEMENT

Semester Hours: 3

A study of problems and practices of operations and materials management. Topics include: materials acquisitions, inventory systems, demand management, aggregate planning, materials, logistics systems and current topics. Prerequisite: MSC 287.

MGT 450 - INTERNATIONAL BUSINESS

Semester Hours: 3

Explores the economic, social, political, cultural, and legal environment of global business operations and considers how environmental effects on business programs and strategies. Relies on a variety of conceptual, methodological and application perspectives. Prerequisite: MGT 301, MKT 301, and FIN 301.

MGT 460 - EMPLOYEE STAFFING & DEVELOP

Semester Hours: 3

The study of employee staffing and development concepts, issues and tools. Topics include forecasting staffing needs, recruitment strategies, development and validation of selection procedures, placement, socialization and development of employees, and the utilization of contingent workers.

Prerequisite: MGT 363.

MGT 461 - STRATEGIC COMPENSATION MGMT

Semester Hours: 3

Introduction to management of employees' compensation. Overview of compensation practices, behavioral and economic theories of compensation, and research on compensation programs. Prerequisites: MSC 287 and MGT 363.

MGT 462 - EMPLOYMENT LAW FOR MANAGERS

Semester Hours: 3

The study of government regulation of the management of human resources. Examines employer responsibilities and employee rights under federal state law pertaining to separations, discrimination, compensation and other terms of employment, worker safety and health, privacy, and unions.

MGT 470 - SPEC TOPICS SEMINAR IN MGMT

Semester Hours: 3

In-depth study of a selected topic relevant to contemporary management. Different sections of this course may address different topics.

MGT 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Active involvement in an on-going project in a business enterprise that has particular interest and relevance to the student, or an in-depth investigation of contemporary management problems. Approval of department chair is required.

MGT 494 - PRACTICUM IN MANAGEMENT

Semester Hours: 3

Student teams will apply management concepts and skills in a semester-long business simulation or management project conducted for a client firm or non-profit. The teams will be closely supervised by a faculty member with expertise related to the simulation or project. Prerequisite: MGT 301, MSC 287, and MSC 288.

MGT 495 - INTERNSHIP IN MANAGEMENT

Semester Hours: 1-3

Under the direction of a faculty advisor, experience is gained with an entrepreneur in a small business firm or a manager in a large firm. Subject to College's guidelines on internships.

MGT 499 - COMPETITIVE STRATEGY

Semester Hours: 3

Addresses formulation & implementation of business/corporate level strategies: defining the mission, setting goals and objectives, analyzing current operating conditions and the organization's environment, and setting a unified strategic direction. Recommended taking during final semester of degree. Upper division standing required. Student must obtain a grade of C or higher. Prerequisite: MGT 301, MKT 301, FIN 301, IS 301, MSC 385 and either (EH 300 or EH 301).

Management, BSBA - Acquisition Management Concentration

BSBA, Management Requirements (Acquisition Management Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE	

or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I

CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300	STRATEGIES FOR BUSINESS WRIT'G

or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

- ¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.
- ² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Management Major Requirements (Acquisition Management Concentration)		21
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
MGT 401	INTRO TO CONTRACT MANAGEMENT	
MGT 402	CONTRACT EVALUATION & AWARD	
MGT 403	CONTRACT PRICING & COST ANALYS	
BLS 406	GOVERNMENT CONTRACT LAW	
Select one 300-400 level business elective		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

Year 1

		Semester Hours
Fall		
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16

Year 2**Fall**

ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: **16**

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MSC 288	BUSINESS STATISTICS II	3
MGT 301	MANAGING ORGANIZATIONS	3
Humanities elective (Non-Literature)		3

Term Semester Hours: **15**

Year 3**Fall**

EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
MGT 361	ORGANIZATIONAL BEHAVIOR	3
MGT 363	HUMAN RESOURCE LABOR REL MGT	3
MGT 401	INTRO TO CONTRACT MANAGEMENT	3
MKT 301	PRINCIPLES OF MARKETING	3

Term Semester Hours: **15**

Spring

FIN 301	PRINCIPLES OF FINANCE	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 402	CONTRACT EVALUATION AWARD	3
MSC 385	OPERATIONS ANALYSIS	3
Humanities/Fine Arts elective		3

Term Semester Hours: **15**

Year 4**Fall**

CM 313	BUSINESS PROFESSIONAL COMM	3
MGT 403	CONTRACT PRICING COST ANALYS	3
100-400 level free elective		3
300-400 level business elective		3
300-400 level upper division business elective		3

Term Semester Hours: **15**

Spring

BLS 406	GOVERNMENT CONTRACT LAW	3
MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ECN elective		3

Term Semester Hours: **12**

Total Semester Hours: **120**

Management, BSBA - General Management Concentration

BSBA, Management Requirements (General Management Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE	

or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I

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3-4

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CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		
31		

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300	STRATEGIES FOR BUSINESS WRIT'G

or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Management Major Requirements (General Management Concentration)		21
MGT 320	CAREER DEVELOPMENT	
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
MGT 405	NEW VENTURE STRATEGIES	
Select two 300-400 level MGT or MSC electives (6 hours)		
Select one 300-400 level business elective (3 hours)		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

Year 1

Fall		Semester Hours
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16

Year 2

Fall

ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: **16**

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3

Term Semester Hours: **15**

Year 3**Fall**

FIN 301	PRINCIPLES OF FINANCE	3
MGT 361	ORGANIZATIONAL BEHAVIOR	3
MGT 363	HUMAN RESOURCE LABOR REL MGT	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
Humanities/Fine Arts elective		3

Term Semester Hours: **15**

Spring

CM 313	BUSINESS PROFESSIONAL COMM	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
MGT 320	CAREER DEVELOPMENT	3
MSC 385	OPERATIONS ANALYSIS	3
300-400 level MGT or MSC elective		3

Term Semester Hours: **15**

Year 4**Fall**

MGT 405	NEW VENTURE STRATEGIES	3
100-400 level free elective		3
300-400 level MGT or MSC elective		3
300-400 level upper division business elective		3
Humanities (Non-Literature)		3

Term Semester Hours: **15**

Spring

MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level business elective		3
300-400 level ECN elective		3

Term Semester Hours: **12**

Total Semester Hours: **120**

Management, BSBA - Human Resource Management Concentration

BSBA, Management Requirements (Human Resource Management Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE	

or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I

CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300	STRATEGIES FOR BUSINESS WRIT'G

or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

- ¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.
- ² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Management Major Requirements (Human Resource Management Concentration)		21
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
MGT 460	EMPLOYEE STAFFING & DEVELOP	
MGT 461	STRATEGIC COMPENSATION MGMT	
MGT 462	EMPLOYMENT LAW FOR MANAGERS	
Select one experiential course from the following:		
MGT 470	SPEC TOPICS SEMINAR IN MGMT	
or MGT 490	SPECIAL PROJECTS	
or MGT 494	PRACTICUM IN MANAGEMENT	
or MGT 495	INTERNSHIP IN MANAGEMENT	
or MKT 465	MARKETING FOR NEW VENTURES	
or MSC 490	SPECIAL PROJECTS	
or MSC 495	INTERN IN MGMT SCIENCE	
or a college approved study abroad		
Select one concentration elective from the following:		3
CM 451	ORGANIZATIONAL TRNG & DEVELOP	
or ECN 475	LABOR ECONOMICS	
or MGT 320	CAREER DEVELOPMENT	
or MGT 405	NEW VENTURE STRATEGIES	
or MGT 408	TEAMWORK & TEAM PROCESSES	
or MGT 410	LEADERSHIP, PERSONAL DEV & ORG	
or MGT 470	SPEC TOPICS SEMINAR IN MGMT	
or MGT 490	SPECIAL PROJECTS	
or MGT 494	PRACTICUM IN MANAGEMENT	
or a college approved study abroad		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

Year 1

		Semester Hours
Fall		
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3

Term Semester Hours: 16

Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3

Term Semester Hours: 16

Year 2

Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: 16

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MSC 288	BUSINESS STATISTICS II	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3

Term Semester Hours: 15

Year 3

Fall		
CM 313	BUSINESS PROFESSIONAL COMM	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
MGT 361	ORGANIZATIONAL BEHAVIOR	3
MGT 363	HUMAN RESOURCE LABOR REL MGT	3

Term Semester Hours: 15

Spring

IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 460	EMPLOYEE STAFFING DEVELOP	3
MSC 385	OPERATIONS ANALYSIS	3
Humanities elective (Non-Literature)		3

Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 4		
Fall		
MGT 450	INTERNATIONAL BUSINESS	3
MGT 461	STRATEGIC COMPENSATION MGMT	3
MGT 462	EMPLOYMENT LAW FOR MANAGERS	3
Experiential elective		3
300-400 level upper division business elective		3
Term Semester Hours:		15
Spring		
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ECN elective		3
100-400 level free elective		3
Concentration elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Management, BSBA - Supply Chain Management Concentration

BSBA, Management Requirements (Supply Chain Management Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	

EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	

MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS	
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS	
BLS 211	LEGAL ENVIRON/BUSINESS	
IS 146	COMPUTER APPL IN BUSINESS	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING	
CM 313	BUSINESS & PROFESSIONAL COMM	
Select one 300-400 level ECN elective		

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Management Major Requirements (Supply Chain Management Concentration)		21
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
IS 422	SUPPLY CHAIN MANAGEMENT SYSTEM	
MSC 410	TRANSPORTATION & LOGISTICS	
MSC 411	SUPPLY CHAIN MANAGEMENT	
Select two 300-400 level business electives (6 hours)		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120

Year 1

		Semester Hours
Fall		
FYE 101	CHARGER SUCCESS	1
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3

Term Semester Hours: 16

Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3

Term Semester Hours: 16

Year 2

Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: 16

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3

Term Semester Hours: 15

Year 3

Fall		
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MGT 361	ORGANIZATIONAL BEHAVIOR	3
MGT 363	HUMAN RESOURCE LABOR REL MGT	3

Term Semester Hours: 15

Spring

CM 313	BUSINESS PROFESSIONAL COMM	3
IS 422	SUPPLY CHAIN MANAGEMENT SYSTEM	3
MSC 385	OPERATIONS ANALYSIS	3
MSC 411	SUPPLY CHAIN MANAGEMENT	3
Humanities/Fine Arts elective		3

Term Semester Hours: 15

Year 4**Fall**

MSC 410	TRANSPORTATION LOGISTICS	3
300-400 level upper division business elective		3
300-400 level business elective		3
300-400 level ECN elective		3
Humanities (Non-Literature)		3
Term Semester Hours:		15

Spring

MGT 450	INTERNATIONAL BUSINESS	3
MGT 499	COMPETITIVE STRATEGY	3
100-400 level free elective		3
300-400 level business elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Business Minor

Students may minor in business to facilitate career goals that require a broad knowledge of the functional areas of business. Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

NOTE: This minor is not available to students pursuing a major within the BSBA degree.

Code	Title	Semester Hours
Required Courses		21-22
ACC 211 or ACC 210	PRINC OF FINANCIAL ACCOUNTING ACCOUNTING FOR BUSINESS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
MSC 287 or ISE 390 or MA 385 or PY 300 or SOC 303 or ST 281	BUSINESS STATISTICS I PROB & ENGR STATISTICS I INTRO TO PROBABILITY & STATIST PSYCHOLOGICAL STATISTICS STATISTICS/SOCIAL SCIENCES ELEMENTS OF STAT ANALYSIS	
FIN 301	PRINCIPLES OF FINANCE	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
Total Hours		21-22

Entrepreneurship Minor

Students who have an interest in becoming entrepreneurs or participating in the launch of a new product or service can minor in entrepreneurship by taking 18 semester hours of courses from the management, marketing, and finance departments. This minor helps students develop the following:

- research skills to identify entrepreneurial opportunities for small business startups
- the ability to integrate knowledge from the various business disciplines as they apply to small business management
- an understanding of financial decision making as it applies to entrepreneurship ventures
- the ability to critically analyze competitive strategy

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

Code	Title	Semester Hours
Required Courses		18
FIN 301 or ACC 201	PRINCIPLES OF FINANCE ACCOUNTING & FINANCE FOR ENTREPRENEURS	
MGT 301	MANAGING ORGANIZATIONS	
MGT 405	NEW VENTURE STRATEGIES	
MKT 301	PRINCIPLES OF MARKETING	
MKT 465	MARKETING FOR NEW VENTURES	
Select one of the following:		
MKT 350 or MGT 494 or MKT 494 or MU 407 or TH 475	MARKETING EMERGING TECHNOLOGY PRACTICUM IN MANAGEMENT PRACTICUM IN MARKETING INTERNSHIP MUSIC BUSINESS PORTFOLIO	
Or any of the following courses with statement from faculty of record stating how the project or practicum applies to entrepreneurship, business, or the development of a new product:		
ARS 432 or AES 414 or AES 495 or AES 498 or BYS 302 or BYS 311 or BYS 490 or BYS 491 or BYS 492 or CE 498 or CH 421 or CH 480 or CH 491 or CHE 448 or CHE 494 or CPE 495 or CS 488 or CS 498 or CS 499 or EE 494 or ISE 428 or MA 490 or PH 489 or PH 499	GRAPH DES: SENIOR PROJ MGMT GEOSPATIAL APPLICATIONS DIRECTED STUDY RESEARCH & PROF DEV CAPSTONE PEOPLE, PLANTS & ENVIRONMENT INTRO MOLECULAR UNDS BIO SYST SENIOR CAPSTONE SPECIAL TOPICS BIOLOGICAL SCI UNDERGRADUATE RESEARCH CIVIL ENGINEERING DESIGN I INSTRUMENTAL ANALYSIS SELECTED TOPICS IN CHEM INTRO TO CHEMICAL RESEARCH CHEMICAL ENGINEERING DESIGN APPLIED MATERIALS ENGINEERING COMPUTER ENGINEERING DESIGN I INTRO TO BIG DATA COMPUTING SPECIAL TOPICS SR PROJ:TEAM SOFTWARE DESIGN EE DESIGN PROJECTS SYSTEMS ANALYSIS & DESIGN I SEL TOP UNDERGRAD MATH SELECTED TOPICS PHYSICS PRACTICUM	
Total Hours		18

Human Resource Management Minor

A minor in Human Resource Management (HRM) prepares students for careers in HRM. Human resource managers have responsibilities related to recruiting and selecting employees, designing and managing pay and benefits, and employee performance management. An HRM minor is helpful to students who plan to work in a small business where owners/managers have broad managerial responsibilities, including management of employees. An HRM minor is also helpful for students in Science, Engineering and Nursing who manage teams of employees.

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

NOTE: This minor is not available to students pursuing a Management Major with a Human Resource Management Concentration within the BSBA degree.

Code	Title	Semester Hours
Required Courses		18
MGT 301	MANAGING ORGANIZATIONS	
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
MGT 462	EMPLOYMENT LAW FOR MANAGERS	
Select 6 semester hours from the following:		
CM 451	ORGANIZATIONAL TRNG & DEVELOP	
ECN 475	LABOR ECONOMICS ¹	
MGT 320	CAREER DEVELOPMENT	
MGT 410	LEADERSHIP, PERSONAL DEV & ORG	
MGT 460	EMPLOYEE STAFFING & DEVELOP ²	
MGT 461	STRATEGIC COMPENSATION MGMT	
MGT 494	PRACTICUM IN MANAGEMENT	
MGT 495	INTERNSHIP IN MANAGEMENT	
Total Hours		18

¹ Students taking ECN 475 will also have to take its prerequisite, ECN 143. We encourage HRM minors to take this class in Charger Foundations as part of their social science requirement.

² For students in the HRM Minor, we will allow the following requisites to substitute for the prerequisites specified in the catalog description of the MGT 460 class: Prerequisites - MGT 301 with a minimum grade of B- or higher. Prerequisite with concurrency - MGT 363.

Management and Leadership Minor

Students planning for careers that require management and leadership skills may consider a minor in Management and Leadership. The minor includes required courses from the field of management, and potential elective courses from communications, psychology, sociology, nursing, and political science.

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

NOTE: This minor is not available to students pursuing a Management major within the BSBA degree.

Code	Title	Semester Hours
Required Courses		18
MGT 301	MANAGING ORGANIZATIONS	
MGT 361	ORGANIZATIONAL BEHAVIOR	
MGT 363	HUMAN RESOURCE & LABOR REL MGT	
MGT 462	EMPLOYMENT LAW FOR MANAGERS	
Select 6 semester hours from the following:		
MGT 410	LEADERSHIP, PERSONAL DEV & ORG	
CM 313	BUSINESS & PROFESSIONAL COMM	
ISE 402	INDUSTRIAL & ORGANIZA PSY	
or PY 402	INDUSTRIAL & ORGANIZA PSY	
MGT 450	INTERNATIONAL BUSINESS	
MGT 460	EMPLOYEE STAFFING & DEVELOP	
MGT 461	STRATEGIC COMPENSATION MGMT	
MGT 470	SPEC TOPICS SEMINAR IN MGMT	
PSC 304	AMERICAN PRESIDENCY	

PY 375
or SOC 375

SOCIAL PSYCHOLOGY
SOCIAL PSYCHOLOGY

Total Hours

18

Marketing

Department Chair Contact Information

Telephone: 256.824.6680

Email: MKT@uah.edu (mkt@uah.edu)

Mission

The Department of Management and Marketing provides academically rigorous instruction on the use of analytical tools and theoretical concepts in management and marketing to help students understand and apply them to practical business problems in scientific, technological and traditional business environments, non-profits, and government agencies. The departmental faculty also develops and disseminates knowledge on diverse topics related to management and marketing.

Marketing

A major in marketing allows those students with interests in developing and marketing products and services to gain the knowledge and skills needed to pursue careers in corporate digital marketing, supply chain in marketing, and general marketing. Since marketing is such a diverse area, the curriculum has been divided into three concentrations.

The Digital Marketing (p. 345) concentration focuses on marketing and analytical skills needed by industry and governments to develop effective, profitable social marketing strategies to interact with customers and partners. This concentration covers web analytics, marketing research, web and mobile applications, and online promotion mix. This concentration is designed for students interested in careers such as social media marketing manager, social media strategist, SEO strategist, and online community manager.

The Supply Chain in Marketing (p. 350) concentration involves all areas of the supply chain, from planning to distribution. The supply chain concentration prepares marketing students who are interested in business-to-business marketing to manage inter-organizational relationships that are necessary to integrate the transportation, logistics, purchasing, information technology, and operations across the network of firms. This concentration is designed to prepare students for careers in supply chain management with industrial firms and public sector organizations such as the Department of Defense and NASA.

The General Marketing (p. 355) concentration is designed for students in Marketing who are interested in business-to-consumer marketing. This concentration helps students develop research skills to identify market opportunities and prepares students with the managerial acumen to be successful in consumer product marketing or in retail management. This concentration gives students the flexibility to customize their major field coursework to fit their particular career ambitions.

There are three concentrations within the marketing major:

- Marketing, BSBA - Digital Marketing Concentration (p. 345)
- Marketing, BSBA - Supply Chain in Marketing Concentration (p. 350)
- Marketing, BSBA - General Marketing Concentration (p. 355)

Minor in Marketing

The College of Business offers a Marketing minor for business students who want additional knowledge in the subject but do not want an Marketing major. Students from other colleges are able to complete this minor.

The minor in Marketing is beneficial for students majoring in disciplines such as communications, sociology, or psychology, and can also be useful for students in science and engineering. Many students with majors from the College of Arts, Humanities, and Social Sciences choose to minor in marketing to prepare themselves for careers in advertising, public relations, marketing management, international marketing, marketing on the internet, and supply chain management. Science and Engineering students with an interest in new product development, marketing high technology products, international marketing, and supply chain management also minor in marketing. A minor in marketing is also a good option for non-business majors who plan to start their own business or work in the family business.

- Marketing Minor (p. 360)

MKT 301 - PRINCIPLES OF MARKETING

Semester Hours: 3

Integration of professional selling techniques and concepts with sales management problems. Addresses objectives and policies for managing a sales force; market analysis methods used for sales forecasts and budgeting; and problems faced by sales management in competition, pricing, and promotions.

MKT 315 - SALES MGT/PROF SELLING

Semester Hours: 3

Integration of techniques and concepts of professional selling with problems of sales management. Objectives and policies for sales managers concerning managing sales force and methods of marketing analysis in terms of sales forecasts and budgeting. Problems faced by sales management in competition, pricing, and promotion. Prerequisite: MKT 301.

MKT 316 - RETAILING POLICY/MGT

Semester Hours: 3

Policies, practices, and problem solutions in efficient operation of chain and independent retail stores. Store location, organizational layout, merchandise planning and control, buying, pricing, and promotion.

MKT 332 - BUYER BEHAVIOR

Semester Hours: 3

Interdisciplinary and organizational approach to analyze and interpret consumer buying habits and motives and the resultant purchases of goods and services. Purchaser's psychological, economic, and sociocultural actions and reactions as they relate to better understanding of consumption. Prerequisite: MKT 301.

MKT 342 - PROMOTIONAL STRATEGY

Semester Hours: 3

Promotional techniques available to marketing management. Consumer behavior and communication process by which products can be effectively promoted. Specific tools of personal selling, advertising, sales promotion, and publicity as components of overall promotional strategy. Prerequisite: MKT 301.

MKT 343 - MARKET RESEARCH DESIGN

Semester Hours: 3

Introduction to the principles and purposes of marketing research; relationship to other marketing functions and data sources. Application of the principles and purposes of marketing research; qualitative research methods, experimental design, survey and questionnaire design, sampling procedures, and data analysis. Prerequisites: MKT 301 and ((MSC 287 and MSC 288) or CM 370 or PY 300 or SOC 303).

MKT 344 - DIGITAL MARKETING ANALYTICS

Semester Hours: 3

Introduction to digital initiatives and data-informed decision-making; evaluate strategic analytics plans, gather structured and unstructured data, analyze large digital data sets, and utilize data-driven insights. Prerequisite: MKT 301 and ((MSC 287 and 288) or CM 370 or PY 300 or SOC 303).

MKT 345 - MKT CHANNEL STRUCT & STRATEGY

Semester Hours: 3

Marketing channels as a functional area and the alternative choices available to marketing management in developing overall marketing strategy. Institutional structures and dynamic interrelationships in distribution logistics.

MKT 350 - MARKETING EMERGING TECHNOLOGY

Semester Hours: 3

Comprehensive review of the new product development and marketing process. Emphasizes actual case examples showing how companies develop and market radically new products. Prerequisite: MKT 301.

MKT 405 - NEW VENTURE STRATEGIES

Semester Hours: 3

Theory and application of both marketing and management strategies for start up, operation and control of new ventures. The course also discusses the role of entrepreneurship in the economy. Prerequisite: MKT 301 and MGT 301.

MKT 415 - INTERNATIONAL MARKETING

Semester Hours: 3

Procedures and problems associated with establishing and carrying out marketing operations in or with foreign companies. Institutions, principles, and methods involved in solving these business problems. Effect of national differences in business practices and regulation. Prerequisite: MKT 301.

MKT 420 - SERVICES MARKETING

Semester Hours: 3

Addresses the challenge of delivering quality service to customers. Focuses on organizations whose core products are services (e.g., banks, hospitals, non-profit organizations) or which depend on service excellence for competitive advantage. Prerequisite: MKT 301.

MKT 465 - MARKETING FOR NEW VENTURES

Semester Hours: 3

The goal is to provide a solid background with practical application of theories, concepts, and techniques at the interface of entrepreneurship and marketing. Student will learn the cutting-edge development in entrepreneurial practices with hands-on experience. The course will rely on class discussion, case analysis, and group project on marketing for entrepreneurs. Prerequisite: MKT 301 and FIN 301.

MKT 470 - SOCIAL MEDIA MARKETING

Semester Hours: 3

The course focuses on how to meet the challenge of brand building in a digital age. It aims to foster the students' acquisition of social media marketing skills, equipping them with relevant knowledge of how to incorporate social media into marketing strategy thus enhancing value to both companies and customers. As future marketers, students will learn how to adopt a customer centric approach to their future marketing tasks, and be guided through a number of hands-on assignments that are immediately applicable to marketing practices. Prerequisite: MKT 301.

MKT 475 - ADVANCED MARKETING SEMINAR

Semester Hours: 3

Investigation of advanced marketing topics that are relevant to contemporary marketing practices. The course will focus on current issues related to marketing in a high technology environment, relationship marketing, channel design and strategy, transportation, and logistics. Prerequisite: MKT 301.

MKT 480 - MARKETING MANAGEMENT

Semester Hours: 3

Study of management of marketing function. Addresses setting objectives, organization and control of marketing resources in coordination with other functional areas, identification and selection of market opportunities, competitive strategies, and development of marketing policies and programs. Prerequisite: MKT 301, MKT 332 (with concurrency).

MKT 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Independent study in an area of interest to the student in the field of marketing. Approval of Dept. Chair required.

MKT 494 - PRACTICUM IN MARKETING

Semester Hours: 3

MKT 495 - INTERN IN MARKETING

Semester Hours: 1-3

Active involvement in a project in a business enterprise, professional organization or in a government agency that has particular interest and relevance to the student. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Subject to College's guidelines on internships.

Marketing, BSBA - Digital Marketing Concentration

BSBA, Marketing Requirements (Digital Marketing Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	

EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
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or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	

PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	

Social and Behavioral Sciences

6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
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Upper Division Degree Requirements

FIN 301	PRINCIPLES OF FINANCE
IS 301	INFO SYSTEMS IN ORGANIZATIONS
MGT 301	MANAGING ORGANIZATIONS
MKT 301	PRINCIPLES OF MARKETING
MSC 385	OPERATIONS ANALYSIS
MGT 450	INTERNATIONAL BUSINESS
MGT 499	COMPETITIVE STRATEGY

Select one upper division business elective (300-400 level)

Marketing Major Requirements (Digital Marketing Concentration) 21

MKT 332	BUYER BEHAVIOR
MKT 343	MARKET RESEARCH DESIGN
MKT 350	MARKETING EMERGING TECHNOLOGY
MKT 470	SOCIAL MEDIA MARKETING
MKT 480	MARKETING MANAGEMENT

Select one of the following:

MKT 315	SALES MGT/PROF SELLING
or MKT 316	RETAILING POLICY/MGT
or MKT 465	MARKETING FOR NEW VENTURES

Select one experiential course from the following:

MKT 465	MARKETING FOR NEW VENTURES
or MKT 490	SPECIAL PROJECTS
or MKT 494	PRACTICUM IN MARKETING
or MKT 495	INTERN IN MARKETING

or a college approved study abroad

Free Electives 3

Select 3 semester hours of free electives

Total Hours 120

Year 1

		Semester Hours
Fall		
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3

Term Semester Hours: 16

Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3

Term Semester Hours: 16

Year 2

Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4

Term Semester Hours: 16

Spring

ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3

MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3
Term Semester Hours:		15
Year 3		
Fall		
CM 313	BUSINESS PROFESSIONAL COMM	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
MKT 332	BUYER BEHAVIOR	3
MKT 343	MARKET RESEARCH DESIGN	3
Term Semester Hours:		15
Spring		
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MKT 470	SOCIAL MEDIA MARKETING	3
MSC 385	OPERATIONS ANALYSIS	3
300-400 level MKT elective		3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 4		
Fall		
MGT 450	INTERNATIONAL BUSINESS	3
MKT 350	MARKETING EMERGING TECHNOLOGY	3
300-400 level upper division business elective		3
Experiential elective		3
Humanities (Non-Literature)		3
Term Semester Hours:		15
Spring		
MGT 499	COMPETITIVE STRATEGY	3
MKT 480	MARKETING MANAGEMENT	3
300-400 level ECN elective		3
100-400 level free elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Marketing, BSBA - Supply Chain in Marketing Concentration

BSBA, Marketing Requirements (Supply Chain in Marketing Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	

or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	

PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	

HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Sciences	
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31

Courses in this area may also fulfill Charger Foundations requirements.

FYE 101	CHARGER SUCCESS (1 hour)
or HON 101	INTRO TO HONORS RESEARCH
or BUS 300	BUSINESS TRANSITIONS
MA 120	MATH PROFESSIONAL APPLICATIONS ¹
ECN 142	PRINC OF MACROECONOMICS ²
ECN 143	PRINC OF MICROECONOMICS ²
ACC 211 & ACC 212	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING
or ACC 210	ACCOUNTING FOR BUSINESS
BLS 211	LEGAL ENVIRON/BUSINESS
IS 146	COMPUTER APPL IN BUSINESS
MSC 287	BUSINESS STATISTICS I
MSC 288	BUSINESS STATISTICS II
EH 300	STRATEGIES FOR BUSINESS WRIT'G
or EH 301	TECHNICAL WRITING
CM 313	BUSINESS & PROFESSIONAL COMM
Select one 300-400 level ECN elective	

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24

FIN 301	PRINCIPLES OF FINANCE
IS 301	INFO SYSTEMS IN ORGANIZATIONS
MGT 301	MANAGING ORGANIZATIONS
MKT 301	PRINCIPLES OF MARKETING
MSC 385	OPERATIONS ANALYSIS

MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Marketing Major Requirements (Supply Chain in Marketing Concentration)		21
IS 422	SUPPLY CHAIN MANAGEMENT SYSTEM	
MKT 332	BUYER BEHAVIOR	
MKT 343	MARKET RESEARCH DESIGN	
MKT 350	MARKETING EMERGING TECHNOLOGY	
MKT 480	MARKETING MANAGEMENT	
MSC 410	TRANSPORTATION & LOGISTICS	
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120
Year 1		
Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		
Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3
Humanities elective (Non-Literature)		3
Term Semester Hours:		15
Year 3		
Fall		

EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 332	BUYER BEHAVIOR	3
MKT 350	MARKETING EMERGING TECHNOLOGY	3
Term Semester Hours:		15
Spring		
CM 313	BUSINESS PROFESSIONAL COMM	3
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MSC 385	OPERATIONS ANALYSIS	3
MSC 411	SUPPLY CHAIN MANAGEMENT	3
Humanities/Fine Arts elective		3
Term Semester Hours:		15
Year 4		
Fall		
MGT 450	INTERNATIONAL BUSINESS	3
MKT 343	MARKET RESEARCH DESIGN	3
MSC 410	TRANSPORTATION LOGISTICS	3
100-400 level free elective		3
300-400 level upper division elective		3
Term Semester Hours:		15
Spring		
IS 422	SUPPLY CHAIN MANAGEMENT SYSTEM	3
MGT 499	COMPETITIVE STRATEGY	3
MKT 480	MARKETING MANAGEMENT	3
300-400 level ECN elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Marketing, BSBA - General Marketing Concentration

BSBA, Marketing Requirements (General Marketing Concentration)

- BSBA degree requires 120 credit hours, an overall 2.0 GPA, and a GPA of 2.0 in the 45 credit hours in the Upper Division Business degree requirements and major requirements.
- 12 credit hours of 300 level and above must be taken in the major.
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- Grade of C- or higher in MGT 499.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	

ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	

ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*** Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.**

Code	Title	Semester Hours
Area V: Pre-Professional Courses		31
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101 or HON 101 or BUS 300	CHARGER SUCCESS (1 hour) INTRO TO HONORS RESEARCH BUSINESS TRANSITIONS	
MA 120	MATH PROFESSIONAL APPLICATIONS ¹	
ECN 142	PRINC OF MACROECONOMICS ²	
ECN 143	PRINC OF MICROECONOMICS ²	
ACC 211 & ACC 212 or ACC 210	PRINC OF FINANCIAL ACCOUNTING and MANAGEMENT ACCOUNTING ACCOUNTING FOR BUSINESS	
BLS 211	LEGAL ENVIRON/BUSINESS	
IS 146	COMPUTER APPL IN BUSINESS	
MSC 287	BUSINESS STATISTICS I	
MSC 288	BUSINESS STATISTICS II	
EH 300 or EH 301	STRATEGIES FOR BUSINESS WRIT'G TECHNICAL WRITING	
CM 313	BUSINESS & PROFESSIONAL COMM	
Select one 300-400 level ECN elective		

¹ Business students must choose either MA 107, MA 107S, MA 112, or MA 112S in Area III: Mathematics in Charger Foundations to satisfy the prerequisite for MA 120 and score a grade of C- or better.

² Business students must choose both ECN 142 and ECN 143 to satisfy both Area IV: Social and Behavioral Sciences in Charger Foundations and Area V: Pre Professional Requirements.

Code	Title	Semester Hours
Upper Division Business Degree Requirements		24
FIN 301	PRINCIPLES OF FINANCE	
IS 301	INFO SYSTEMS IN ORGANIZATIONS	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	
MSC 385	OPERATIONS ANALYSIS	
MGT 450	INTERNATIONAL BUSINESS	
MGT 499	COMPETITIVE STRATEGY	
Select one upper division business elective (300-400 level)		
Marketing Major Requirements (General Marketing Concentration)		21
MKT 332	BUYER BEHAVIOR	
MKT 343	MARKET RESEARCH DESIGN	

MKT 350	MARKETING EMERGING TECHNOLOGY	
MKT 480	MARKETING MANAGEMENT	
Select 9 hours from the following:		
300-400 level MKT electives		
or a college approved study abroad		
Free Electives		3
Select 3 semester hours of free electives		
Total Hours		120
Year 1		
Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
or EH 101S	or COLLEGE WRITING I W/STUDIO	
FYE 101	CHARGER SUCCESS	1
IS 146	COMPUTER APPL IN BUSINESS	3
MA 107	ALGEBRA WITH APPLICATIONS	3
or MA 107S	or ALGEBRA W/APPLICATIONS S-SECT	
or MA 112	or PRECALCULUS ALGEBRA	
or MA 112S	or PRECALCULUS ALGEBRA S-SECTION	
Fine Arts elective		3
History		3
Term Semester Hours:		16
Spring		
ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Science w/Lab		4
Social Behavioral Sciences elective		3
Term Semester Hours:		16
Year 2		
Fall		
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
BLS 211	LEGAL ENVIRON/BUSINESS	3
ECN 143	PRINC OF MICROECONOMICS	3
MSC 287	BUSINESS STATISTICS I	3
Science w/Lab		4
Term Semester Hours:		16
Spring		
ACC 212	MANAGEMENT ACCOUNTING	3
EH 207	READINGS LITERATURE/CULTURE I	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
MSC 288	BUSINESS STATISTICS II	3
Term Semester Hours:		15
Year 3		
Fall		
CM 313	BUSINESS PROFESSIONAL COMM	3
EH 300	STRATEGIES FOR BUSINESS WRIT'G	3
or EH 301	or TECHNICAL WRITING	
FIN 301	PRINCIPLES OF FINANCE	3
MKT 332	BUYER BEHAVIOR	3

MKT 343	MARKET RESEARCH DESIGN	3
Term Semester Hours:		15
Spring		
IS 301	INFO SYSTEMS IN ORGANIZATIONS	3
MSC 385	OPERATIONS ANALYSIS	3
Humanities/Fine Arts elective		3
300-400 level MKT elective		3
300-400 level MKT elective		3
Term Semester Hours:		15
Year 4		
Fall		
MKT 350	MARKETING EMERGING TECHNOLOGY	3
MGT 450	INTERNATIONAL BUSINESS	3
Humanities (Non-Literature)		3
300-400 level MKT elective		3
300-400 level upper division business elective		3
Term Semester Hours:		15
Spring		
MKT 480	MARKETING MANAGEMENT	3
MGT 499	COMPETITIVE STRATEGY	3
300-400 level ECN elective		3
100-400 level free elective		3
Term Semester Hours:		12
Total Semester Hours:		120

Marketing Minor

Students electing a minor may use the courses completed in their Charger Foundations as part of the required hours in a minor. Students may also use relevant courses to meet the requirements in their major.

Code	Title	Semester Hours
Required Courses		18
MKT 301	PRINCIPLES OF MARKETING ¹	
MKT 332	BUYER BEHAVIOR	
MKT 343	MARKET RESEARCH DESIGN ²	
MKT 480	MARKETING MANAGEMENT	
Select 6 semester hours from the following:		
MKT 316	RETAILING POLICY/MGT	
MKT 350	MARKETING EMERGING TECHNOLOGY	
MKT 470	SOCIAL MEDIA MARKETING	
MSC 410	TRANSPORTATION & LOGISTICS	
Total Hours		18

NOTE: Students are encouraged to take ECN 142 and ECN 143 in Charger Foundations as part of their social science requirement.

¹ MKT 301 is a prerequisite for most other classes in the minor. It should be taken as early as possible in the student's program.

² For students in the Marketing minor, we will accept either PY 300, SOC 303 or CM 370 as substitutes for the MSC 287 and MSC 288 prerequisites for MKT 343.

College of Education

Telephone: 256.824.6180
 Email: education@uah.edu
Dean: Beth N. Quick, Ed.D.

Mission

The mission of the College of Education is to prepare knowledgeable, caring, and reflective educators and professionals who are committed as leaders to serving the needs of all learners and clients. As a faculty we accomplish our mission through outstanding teaching, cutting-edge research, and meaningful service.

The mission of the College of Education is communicated through our shared vision and articulated in our theme, *Through Teaching, We Lead*. The establishment of this theme codifies the major purpose of our department: to graduate professionals who are exceptionally well-prepared in disciplinary, pedagogical, and professional knowledge, who understand and are prepared to address the needs of all learners and clients, and who are committed to serving as leaders in their professional community to ensure a high-quality public or private education or delivery of services.

Accreditation

Teacher education programs at UAH are accredited by the Council for the Accreditation of Educator Preparation (CAEP) and approved by the Alabama State Board of Education, according to standards of the National Association of the State Directors of Teacher Education and Certification (NASDTEC) for the issuance of appropriate professional certificates for service in public schools.

Degrees and Programs Offered

Under the State of Alabama plan, there are five levels of teacher certification programs, namely, P-3, K-6, 6-12, and P-12. The College of Education offers all options. In conjunction with the College of Arts, Humanities, and Social Sciences and the College of Science, both undergraduate and graduate certification programs are offered. Candidates who complete the following undergraduate certification programs meet the requirements for the Highly Qualified Teacher in Alabama.

The College of Education offers degree programs in the following departments:

Curriculum and Instruction:

- Early Childhood Education/Early Childhood Special Education (PreK-3/birth to age 8)
- Elementary Education (K-6)
- Secondary/High School Education (6-12) with majors in biology, chemistry, English language arts, foreign language (German, French, Spanish), general science, history, mathematics, physics, and general social studies
- Collaborative Teacher – Special Education K-6 or 6-12
- Child, Family, and Community Development (non-licensure)*
- Music Education (P-12) [in collaboration with the Department of Music] (JUMP option available (<http://uah.edu/jump/>))
- Art Education (P-12) [in collaboration with the Department of Art, Art History, and Design]
- A minor is not available in education

Kinesiology:

- Kinesiology - Exercise Science
- Kinesiology - Sports & Fitness Management
- Kinesiology - Physical Education Teacher Education (P-12) (JUMP option available (<http://uah.edu/jump/>))

Students interested in the JUMP programs offered by the College of Education should contact Dr. Derrick Smith (dws0009@uah.edu).

*Currently awaiting SACSCOC approval.

Curriculum and Instruction

323 Roberts Hall
 Telephone: 256.824.6180
 Email: education@uah.edu
Department Chair: Dr. Wolfram Verlaan

Degrees and Programs Offered

The State of Alabama offers five levels of teacher certification programs, namely, P-3, K-6, 6-12, and P-12. The College of Education offers options in four of the five levels of teacher certification.

- Early Childhood Education/Early Childhood Special Education (PreK-3/birth to age 8)
- Elementary Education (K-6)
- Secondary/High School Education (6-12) with majors in Biology, Chemistry, English Language Arts, Foreign Language (German, French, Spanish), General Science, History, Mathematics, Physics, and General Social Science
- Collaborative Teacher – Special Education K-6 or 6-12
- Child, Family, and Community Development (non-licensure)*
- Music Education: Instrumental or Choral (P-12) (through the Department of Music)
- Art Education (P-12) (through the Department of Art, Art History, and Design)
- Physical Education (P-12) (through the Department of Kinesiology)
- A minor is not available in education

*Awaiting SACSCOC final approval.

Accreditation

Educator preparation programs at UAH are accredited by the Council for the Accreditation of Educator Preparation (CAEP) and approved by the Alabama State Board of Education, according to standards of the National Association of the State Directors of Teacher Education and Certification (NASDTEC) for the issuance of appropriate professional certificates for service in public schools.

Preadmission Requirements

File an *Application to the UAH Educator Preparation Program* via TK20 during Block 1 as soon as a decision is made to seek teacher certification, but no later than the end of the sophomore year. In addition, students must meet the following requirements:

1. No more than 2 courses of the General Education Requirements remain to be taken without Departmental approval.
2. Minimum GPA of 2.5 (or ASLDE approved GPA) and grades of C or higher in EH 101 & EH 102 (or EH 103 or EH 105), CM 113, MA 230, MA 231, PY 101, and PY 201.
3. Elementary education candidates must earn a 2.5 GPA in each of the following areas: English, Mathematics, Science, and Social Sciences.
4. Secondary education candidates must earn a 2.5 GPA in their major.
5. Submit a fingerprint card to the Alabama State Department of Education with the appropriate fee in the form of a money order or cashier's check made payable to the Alabama Department of Education and successfully pass a background review conducted by the Alabama Bureau of Investigation and the Federal Bureau of Investigation. Anyone convicted of a felony and/or misdemeanor other than a minor traffic violation may be denied certification or have certification revoked by the State Superintendent of Education.

Admission to the Educator Preparation Program

Admission to the university does not qualify a student for admission to the Educator Preparation Program. Students must submit an Application for Admission to the Educator Preparation Program during the Block I semester of the education courses. They must also meet the following requirements:

1. Minimum 2.5 GPA in Block I ED courses with no grade lower than C.
2. Minimum 2.5 GPA in teaching field or second area of study courses, with no grade lower than C.
3. For Elementary and Early Childhood/Early Childhood Special Education students, a 2.5 GPA for 12 hours in each of the four areas of English, Social Sciences, Mathematics, and Science.
4. Satisfactory completion of specified assignments in Block I, including writing and field experiences.
5. Satisfactory ratings on Admission Interview, Dispositions Ratings, and Application Essay.
6. Passing score on all required subtests of the ***Praxis Core Academic Skills for Educators test (CORE) or applicable ACT/SAT scores. (Check with the Department for specific scores.)***

Admission by Reciprocity

Students who have been admitted to an Educator Preparation Program at an accredited university or college in Alabama may apply for reciprocal admission to the Educator Preparation Program with the Certification Officer or the Department Chair. Field experience hours from the previous university may be applied to UAH field experience requirements with documentation.

Continuation in the Educator Preparation Program

Requirements include:

1. Minimum 2.5 GPA in Education courses, with no grade lower than C.
2. Minimum 2.5 GPA in teaching field or second area of study, with no grade lower than C.
3. Satisfactory completion of Blocks 2 and 3 Field Experience hours and grade of C or higher on required field experience papers. Before the internship, students must complete 200 field experience hours.

4. Satisfactory completion of two Professional Development Activities per semester (unless amended with Department approval).
5. Satisfactory Dispositions Ratings by Education faculty and field experience mentor teachers.
6. Registration for **Praxis II** Test in Block 2-3; must pass required **Praxis II** exams **before** admission for Internship.

If any of the above requirements are not met, a Professional Development Plan (PDP) will be initiated. Candidates who do not meet the conditions of the PDP may be dismissed from the Educator Preparation Program.

Field Experiences

The Alabama State Department of Education requires that all teacher candidates complete robust clinical field experiences in diverse settings prior to the internship. To meet this requirement, candidates will systematically be placed in area schools for a minimum of 70 hours of experience each semester to complete 200 hours total.

Internship Placement Requirements

In addition to satisfactory completion of required coursework and satisfactory completion of 200 hours of field experiences, candidates must meet the following requirements:

1. Minimum 2.5 GPA in Education courses, with no grade lower than C.
2. Minimum 2.5 GPA in second area of study or teaching field, with no grade lower than C. (Elementary Education and Early Childhood/Early Childhood Special Education candidates must earn a 2.75 GPA in each of the following areas: English, Mathematics, Science, and Social Sciences).
3. Satisfactory Dispositions Ratings and field experience evaluations.
4. Satisfactory completing of six (6) Professional Development Activities and all 200 field experience hours.
5. Applications for Internship (via TK20) and graduation on file.
6. Passing Score on all required Praxis II exams.
7. (**Foreign Language Students**): Score of "Advanced Low" on the ACTFL Oral Proficiency Interview.

Application Dates

Internships must be completed in the final semester before graduation. All internship placements are coordinated by the Coordinator of Field and Clinical Experiences. At UAH, the internship is a full-time, full semester assignment of 15 weeks. Candidates should not expect to enroll in other courses during the internship semester. During the internship, students must complete and pass the edTPA assessment for certification as required by the Alabama State Department of Education.

1. Elementary Education students must complete a primary and intermediate assignment.
2. Secondary Education students will complete a middle and high school assignment.
3. P-12 music education students must complete an early childhood/elementary and a middle/high school assignment.
4. Candidates adding the Collaborative Teacher certification will complete part of the internship in a special education setting.

Certification Requirements

Alabama teaching certificates are the legal responsibility of the Alabama State Department of Education. Colleges and universities cannot issue professional certificates. In order to be recommended for a professional teacher's certificate, candidates must complete a state approved program, pass required exams, and pass edTPA. Approved undergraduate programs offered by the UAH College of Education are designed to prepare candidates for professional Class B certification with a bachelor's degree.

Initial Certification

It is the candidate's responsibility to initiate the application for the initial certificate. To be recommended for an initial certificate, candidates must:

1. Meet all UAH Education program requirements including satisfactory completion of the internship with evaluations by university supervisors and cooperating teachers of 2.0 or higher.
2. Passing edTPA.
3. Candidates who expect to teach in states other than Alabama are responsible for knowledge of licensure requirements of those states. Such candidates should inform the certification officer of their intentions.

Ensuring the Competence of Graduates

For a period of two years of the valid date of the Professional Educator Certificate, The University of Alabama in Huntsville, through the College of Education, shall warranty and provide remediation at no cost to students who are evaluated to be unsatisfactory or deficient in any area of preparation. Remediation in professional education and/or teaching field departments will be based upon recommendations from the performance evaluations conducted by public school administrators who use Educate Alabama which is recognized and approved by the State Board of Education. This policy is consistent with the Alabama State Code of Education.

Educator Preparation Programs at UAH

B.A. and/or B.S. programs are available for the following certifications: art, biology, chemistry, collaborative teacher, early childhood/early childhood special education, elementary education, English-language arts, French, general science, German, history, mathematics, music, physical education, physics, social science, and Spanish. (General Education Requirements for teacher candidates may differ from those required of other students. Individuals interested in pursuing teacher education should consult the Department of Curriculum and Instruction about General Education Requirements for their program of study).

Bachelor of Science in Early Childhood and Early Childhood Special Education (PK-3) (p. 369)

Bachelor of Arts in Elementary Education (K-6) (p. 374)

Bachelor of Arts in Elementary Education (K-6) with Collaborative Education (K-6) (p. 377)

Bachelor of Arts in Elementary Education (K-6) with Language and Culture option (p. 380)

Bachelor of Science in Secondary Education (6-12) in the following fields of study:

- Biology (p. 383)
- General Sciences (p. 386)
- Chemistry (p. 388)
- English Language Arts (p. 391)
- Foreign Language (Spanish, French, or German) (p. 394)
- History (p. 398)
- History and General Social Sciences (p. 401)
- Mathematics (p. 404)
- Physics (p. 407)
- Additional Collaborative Certification (6-12) (p. 410)

UAH also offers teacher certification in Music Education (Choral or Instrumental) (p. 179) and Art Education (p. 48).

Bachelor of Science in Child, Family, and Community Development (p. 410) (non-licensure program)

ED 060 - ENGLISH FOR ACADMC PURP PRGM

Semester Hours: 3

This course aims to help students achieve a greater level of success academically and professionally. Three types of evaluative and consultation tracks are offered: accent modification, oral communication, and literacy. A speech pathology model is used toward the accent modification and oral communication tracks, and a consultation approach utilizing a modified multi-sensory method focusing on comprehensive literacy is used toward the literacy track. By the end of the course, students typically exhibit a strong improvement in self-confidence and ability to proceed with their studies and professional dealings.

ED 115 - EFFECTIVE RDG & STUDY SKILLS

Semester Hours: 3

Developmental course focusing on acquisition of strategies to expand an individual's ability to read and study materials encountered in higher education. Effective reading and study strategies which incorporate reading, writing, and listening skills are taught and applied, using college texts and related readings.

ED 301 - INTRO TO EDUCATION PRACTICUM

Semester Hour: 1

Initial practicum experience designed to provide the opportunity to explore the role of the classroom teacher in today's diverse school settings. This experience is a prerequisite for admission to the Teacher Education Program.

ED 305 - FOUNDATIONS OF EDUCATION

Semester Hours: 3

Survey of social, cultural, historical, and philosophical foundations of education; interrelationships of society and education, effects of social change and influences of social-cultural values upon education; educational ideas and processes as they attempt to shape curricula. The perennial search for the meaning of education, perceived not merely as schooling, but as a process of enculturation and socialization. Prerequisites with concurrency: ED 301 and ED 308.

ED 307 - MULTICULTURAL FND EDUCATION

Semester Hours: 3

This course will provide students with an understanding of selected philosophical, historical, social, cultural, political, and economic questions and influences on the development of educational policies and practices. Through an examination of constructs such as race, ethnicity, social class, gender, sexual orientation, and religious affiliation, students will develop an understanding of the connections between identity, difference, power and privilege and the role(s) schools play in perpetuating or ending discriminatory practices.

ED 308 - EDUCATIONAL PSYCHOLOGY

Semester Hours: 3

Psychological principles basic to an understanding of the learner, the learning process, and the learning situation. Intensive field experience required.

ED 309 - CLASSROOM & BEHAVIOR MGMT

Semester Hours: 3

This course focuses on instructional options that learners need in order to be successful. It takes a broad approach to classroom and behavior management that is grounded in both theory and reflective practice. Content will emphasize the study and implementation of a variety of classroom and behavior management strategies that are necessary for working with diverse populations. Intensive field experience in an assigned public school required. Prerequisites: Admission to the Teacher Education Program.

ED 310 - TCHNG THE ARTS IN ELEM SCHOOLS

Semester Hours: 2-3

This course covers multiple aspects of fine arts education in elementary education including the use of content, functions, and achievements of the performing arts (dance, music, theatre) and visual arts as primary media for communication, inquiry, and engagement among elementary students.

ED 315 - EDUC EVALUATION & MEASUREMENT

Semester Hours: 3

This course is designed to help prospective teachers use and construct a range of assessments that will help them plan and teach more effectively, improve learning, and meet state and national standards. The class will focus on more traditional assessment issues such as validity and reliability, as well as the alternative assessments that are likely used in today's classrooms. Furthermore, contextual issues such as educational accountability testing, the No Child Left Behind Act, and teacher testing and evaluation (PEPE) will be explored. Intensive field experience required. Prerequisites: Taken concurrently with ED 373, 374, 405. Admission to the Teacher Education Program or permission of the chair.

ED 350 - TECHNOLOGY IN CLASSROOM

Semester Hours: 3

Introduces prospective teachers to current educational technology. Designed as a laboratory course providing extensive hands-on experiences with microcomputers and other emerging technology. Emphasis is on enabling the student to effectively integrate technology into instructional settings. May be taken prior to entering Teacher Education Program.

ED 360 - EARLY CHILDHOOD EDUC PRACTICUM

Semester Hours: 3

Placement in a state-approved or NAEYC-accredited pre-kindergarten or kindergarten class. Includes a weekly one-hour seminar with a faculty member. Prerequisites: Admission to the Teacher Education Program.

ED 371 - TCHG ELEM LANGUAGE ARTS

Semester Hours: 3

Introduction to current practices in language arts instruction with emphasis on the development of an integrated curriculum using children's literature as a foundation. Includes appropriate techniques for the teaching of grammar, spelling, and handwriting. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 372 - TCHG ELEM SOCIAL STUDIES

Semester Hours: 3

Teaching social studies in grades K-6. Helping beginner teachers acquire background skills in organizing and teaching units of work. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 373 - TCHG NATURL/HLTH SCIENCE

Semester Hours: 3

Integrates concepts from reflective practice with elementary science teaching. Opportunity to refine teaching skills in the planning, implementation, and evaluation of science lessons and units of instruction. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 374 - TCHG ELEM MATHEMATICS

Semester Hours: 3

Overview of the mathematics concepts and skills taught in grades K-6 with an emphasis on the principles, methods, and materials used in the teaching and evaluation of elementary school mathematics. Focuses on the attitudes and behaviors of students and teachers in the actual planning and implementation of mathematics instruction for an elementary school classroom. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 375 - TCHG READING IN PRIMARY GRADES

Semester Hours: 3

An introduction to the basic principles of literacy instruction in culturally and linguistically diverse primary grade classrooms, including theoretical bases for instruction, methods of instruction and organization, developmentally appropriate strategies and materials, and assessment of children's literacy needs. Class activities will include mini-lessons, discussions, group activities, and presentations. An intensive school-based practicum in grades PreK-2 is required.

ED 400 - SPECIAL TOPICS-INTERNSHIP

Semester Hours: 3

Innovative internship focused on working with students with disabilities. Observations, participation, and direct instruction and teaching in a middle or high school setting for a prescribed time.

ED 401 - FNDS OF REFLECTIVE TEACHING

Semester Hours: 3

This diversity elective is designed to develop reflective practitioners, who study teaching and student learning in an effort to improve teaching practices and also meet certification requirements. The course will use various lenses of professional teacher noticing to select and discuss evidence of effective teaching. Course topics include edTPA rubrics, lesson planning, video teaching episode analysis, student assessments and feedback, academic language for describing teaching, and professional writing about teaching.

ED 402 - SPECIAL TOPICS IN EDUCATION

Semester Hours: 3

Introduces students to current issues and trends within educational practice, policy, and theory through a specific lens. Provides opportunities for students to investigate issues of teaching and learning within the broader social/cultural vantage basic exploration of current research and debate within education. Topic may vary with each offering.

ED 405 - RDG STRATEGIES INTERMED GRADES

Semester Hours: 3

This course provides an in-depth study in and application of the process of reading and reading instruction, theoretical approaches, instructional strategies, classroom organization, and the formal/informal assessment of reading in intermediate grades. This course is required of all elementary education majors and secondary education candidates who are pursuing a middle school endorsement. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 408 - TCHG READING/CONTENT AREA

Semester Hours: 3

Provides knowledge of certain basic developmental and remedial reading skills, practices, and concepts. Extends those learned in previous, reading courses and shows how to apply fundamental skills and knowledge to the classroom. This will include adapting fundamentals of reading instruction to the various subject matter areas (i.e., the sciences, social studies, English, etc.). Survey of special reading programs such as remedial reading and reading instruction as practiced in special education. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 410 - FOUNDATIONS EDUC EVALUAT

Semester Hours: 3

Measurement process with emphasis on its relationship to problems of educational evaluation. Evaluation as an integral part of overall educational planning in addition to its use in measurement and evaluation of academic achievement. Prerequisites: Admission to the Teacher Education Program.

ED 413 - CHILDREN'S & ADOLESCENT LIT

Semester Hours: 3

Course content includes the study of various genres of children's and adolescent literature and their relationship to beginning reading, enhancement of reading comprehension, and intervention instruction in the various content areas. Intensive field experience required. Same as EH 413. Prerequisites: Admission to the Teacher Education Program.

ED 421 - SECNDRY ELA INSTR WRIT TO READ

Semester Hours: 2-3

Candidates explore the ways they can use specific writing-to-learn activities to enhance their students' capacity to understand a variety of complex texts. Candidates will learn techniques for engaging students in the questioning, inference-making, syntactical pattern recognition, and meaning-making of both fiction and non-fiction works.

ED 422 - MIDDLE & SECD SCH MATH METHODS

Semester Hours: 2-3

This course is part one in a series of two courses that are designed for teacher candidates who are pursuing teaching certification in middle and/or secondary Mathematics. This methods course provides background for middle school and secondary teaching from the perspective of theory, research, and practice.

ED 423 - TCHNG SCIENCE MID & SEC SCH I

Semester Hours: 2-3

This course will focus on how secondary students learn Science. Candidates will learn how to develop and design developmentally appropriate lessons in which their students are able to make observations, examine relationships, notice patterns, and make inferences, while confronting naive misconceptions. Candidates will discuss the nature of science (NOS).

ED 424 - TCHNG SOC STUD MID & SEC SCH I

Semester Hours: 2-3

This course teaches research-based techniques and strategies employed by Social Studies teachers at the secondary levels. As well as learning theoretical foundations and the goal of social science instruction (citizenship skills), students will learn pedagogic skills, instructional strategies, and modes of reasoning unique to the social studies classroom.

ED 425 - METHODS OF TEACHG WORLD LANGUA

Semester Hours: 2-3

This course is designed to provide undergraduate level Foreign Language majors with the theory, tools (i.e. authentic media and technology), and techniques for teaching middle and secondary students. The focus of the course is primarily, though not exclusively, on designing lessons that allow for maximum student participation and control.

ED 431 - SEC ELA METHD: READING TO WRIT

Semester Hours: 2-3

In this course, candidates will explore the ways they can use specific reading activities to enhance their students' ability to express themselves in multiple registers and forms of discourse. Candidates will learn techniques for engaging students in the process of developing and expressing their ideas while demonstrating an improved command of the grammatical, syntactical, and discursive elements of language.

ED 432 - TCH REASON/PROOF SEC MATH

Semester Hours: 2-3

This methods course provides background for middle school and secondary teaching from the perspective of theory, research, and practice. It is designed to provide an introduction to and practice ways in which to engage students in mathematical reasoning and proof.

ED 433 - TEACH SC MID & SEC SCHOOL II

Semester Hours: 2-3

Students will discuss the status of Science education in our nation's schools, and the need for implementing research-based strategies in the classroom using the 5E learning cycle as framework.

ED 434 - TCHG SOC ST MID & SEC SCHLS II

Semester Hours: 2-3

This methods course is designed to study effective techniques and strategies employed by Social Studies teachers at the middle and secondary levels. As well as learning theoretical foundations in social studies education, students will learn pedagogic skills, instructional strategies, and modes of reasoning unique to the social studies classroom.

ED 435 - DIFF INSTR IN WORLD LANGUAGES

Semester Hours: 2-3

This course is designed to provide undergraduate level Foreign Language majors with the theory, tools (i.e. authentic media and technology), and techniques for teaching middle and secondary students. The focus of the course is primarily, though not exclusively, on designing lessons that allow for maximum student participation through and understanding of student development.

ED 490 - EARLY CHILDHOOD INTERNSHIP

Semester Hours: 12

ED 493 - ELEMENTARY SCHOOL INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in elementary school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

ED 497 - HIGH SCHOOL INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in middle/high school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

ED 499 - P-12 INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in elementary and middle/high school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

EDC 301 - TCHG THE EXCEPTIONAL CHILD

Semester Hours: 3

Examines special education laws and methodology used in teaching special education students. Focus is primarily on those students with mild learning disabilities. Also examines requirements needed in the regular classroom for special teachers. Intensive field experience required.

EDC 302 - INTRO LOW INCIDENCE POPULATION

Semester Hours: 3

Students will learn about low incidence disabilities through reading, research, discussion, and the integration of specific learning strategies during class activities. Students are expected to complete a case study/practicum with a disabled student in addition to 15 hours of observation in classrooms for low incidence exceptional students. Intensive field experience required.

EDC 311 - INSTR STRATEGIES INCLUSIVE CLR

Semester Hours: 3

Students learn about low incidence disabilities through reading, research, discussion, and the integration of specific learning strategies during class activities. Students are expected to complete a case study/practicum with a disabled student in addition to 15 hours of observation in classrooms for low incidence exceptional students. Intensive field experience required.

EDC 316 - DIFFER INSTR FOR ECSE

Semester Hours: 3

This course provides practical strategies to maximize learning for all young learners (birth to 8 years old) with a variety of disabilities. Students will learn to utilize the principles of universal design for learning and differentiated instruction to create structured classrooms and lessons that meet the individual needs of young learners with special needs. This will include learning to select, implement, and evaluate lesson accommodations and modifications for students with exceptional needs.

EDC 321 - COLLAB CONSU(PARENT-TCHR-TEAM)

Semester Hours: 3

This class focuses on the description and rationale for collaboration, including communication skills, group work, problem solving, and co-teaching. Each student will participate as a member of a collaborative team during the practicum. This course will also provide an examination of selected school district issues involving collaboration within traditional K-12 educational settings. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

EDC 331 - CRITICAL ISSUES IN SPEC EDUC

Semester Hours: 3

Provides an in-depth discussion and evaluation of current issues in special education such as litigation, legislation, personnel preparation, and research. School-based practicum required. Intensive field experience required. Prerequisites: Admission to The Teacher Education Program.

EDC 341 - ASSESS/PLN TRANSITION K-12 STU

Semester Hours: 3

Teacher candidates will develop the skills necessary for transitional planning, including administering cognitive, social, and functional assessments. Results of assessments will be interpreted and utilized to plan transitions from one placement to another, to inform instruction in regular, inclusive and self-contained classrooms, and to develop Individualized Education Plans (IEPs) for eligible students. Field work is required. Prerequisites: Admission to the Teacher Education Program.

EDC 351 - BEHAVIOR ANALY & INTERVENTION

Semester Hours: 3

This course focuses on the concepts of applied behavior analysis and how to implement those concepts in classrooms and other settings. Students learn how to conduct a functional behavior assessment and design, implement, and evaluate a behavioral-change project with an appropriate subject in a public school setting. Intensive field work required. Prerequisites: Admission to the Teacher Education Program.

EDC 361 - ECSE PRACTICUM

Semester Hours: 3

A three-hour credit course in a state-approved or NAEYC-accredited early childhood education setting that includes children with developmental delays or diagnosed disabilities. It includes a weekly one hour seminar with a faculty member. Admission to Teacher Education Program required.

ECH 306 - PRINCIPLES OF EARLY CHILDHOOD ED

Semester Hours: 3

This introductory course will provide preservice early childhood educators with basic knowledge of the core principles and foundations of early childhood education. The course introduces students to the historical and sociocultural forces that have impacted the field along with contemporary early childhood programs and models, recent trends and issues, and theories of play. Admission to teacher education program required.

ECH 320 - DIFF INSTR FOR EARLY LEARNERS

Semester Hours: 3

An early childhood education curriculum course designed to provide practical knowledge for blending content areas to maximize children's learning and prepare teacher candidates to meet the needs of children across the curriculum. Focus is on the implementation of a curriculum designed to promote learning and development in the social, emotional, physical, language and cognitive domains. Additionally, the course will emphasize developmentally, culturally, and linguistically appropriate and effective teaching approaches to enhance each child's learning and development. Admission to teacher education program required.

ECH 330 - ASSESSMENT OF YOUNG LEARNERS

Semester Hours: 3

This course provides candidates with an understanding of the forms, functions, methods, and roles of assessment for planning and implementing effective early childhood programs for young children, ages birth to five, from diverse cultures and with varied learning needs. Candidates will explore both quantitative and qualitative approaches to evaluation and assessment. They will learn about technological adaptations to enhance the assessment process. Students will gain an understanding of appropriate strategies for conducting, reporting, and decision making related to specific functions of assessment. They will learn about assessment strategies necessary for second language learners and about adaptations for children with disabilities. They will use selected assessment strategies with young children in their field placements and are expected to become competent in the use of authentic assessment strategies to describe a child's learning strengths and instructional needs. Admission to teacher education program required.

ECH 340 - LANGUAGE, SPEECH & LITERACY DEV

Semester Hours: 3

This course provides an introductory examination of the development of language, speech, and literacy in young learners. Pragmatic syntactic, and phonological analyses of children's language and speech development are required. The connections of oral communication and written communication (literacy) are explored.

ECH 490 - EARLY CHILDHOOD INTERNSHIP

Semester Hours: 12

Observation, participation and teaching in at least two early childhood settings with children ranging from infancy to grade 3 (full time, 15 week semesters). Students will also attend campus-based seminars designed to meet specific needs of the interns. Admission to the teacher education program required.

Early Childhood and Early Childhood Special Education (PK-3), BS

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts

Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		3
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	

TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics		
Mathematics		3
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		8
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 104	WEATHER & CLIMATE CHANGE	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY ¹	
BYS 120	ORGANISMAL BIOLOGY	
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	

AES 105	WORLD REGIONAL GEOGRAPHY
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

¹ Required course

Code	Title	Semester Hours
Pre-Professional Courses		
Mathematics		9
Science w/Lab		4
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ECH 320	DIFF INSTR FOR EARLY LEARNERS	3
ECH 330	ASSESSMENT OF YOUNG LEARNERS	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
EDC 316	DIFFER INSTR FOR ECSE	3
Internship		
ECH 490	EARLY CHILDHOOD INTERNSHIP	12
Teaching Field		
ECH 306	PRINCPLS OF EARLY CHILDHOOD ED	3
ECH 340	LANGUAGE, SPEECH & LITERCY DEV	3
ED 360	EARLY CHILDHOOD EDUC PRACTICUM	3
ED 371	TCHG ELEM LANGUAGE ARTS	3
ED 374	TCHG ELEM MATHEMATICS	3
ED 375	TCHG READING IN PRIMARY GRADES	3
EDC 302	INTRO LOW INCIDENCE POPULATION	3
EDC 321	COLLAB CONSU(PARENT-TCHR-TEAM)	3
EDC 341	ASSESS/PLN TRANSITION K-12 STU	3
EDC 351	BEHAVIOR ANLY & INTERVENTION	3
EDC 361	ECSE PRACTICUM	3
Total Semester Hours		124

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Early Childhood Education/Early Childhood Special Education, BS

Year 1

Fall		Semester Hours
EH 101	COLLEGE WRITING I	3
PY 101	GENERAL PSYCHOLOGY I	3
Math		3
Humanities and Fine Arts		3

History		3
Term Semester Hours:		15
Spring		
EH 102	COLLEGE WRITING II	3
CM 113	Intro to Rhetorical Communication	3
PY 201	LIFE-SPAN DEVELOPMENT	3
Science w/Lab		4
Math		3
Term Semester Hours:		16
Year 2		
Fall		
History		3
Science w/Lab		4
Math		3
Literature		3
Term Semester Hours:		13
Spring		
Science w/Lab		4
Math		3
Literature		3
ED 307	MULTICULTURAL FND EDUCATION	3
ED 350	TECHNOLOGY IN CLASSROOM	3
Term Semester Hours:		16
Year 3		
Fall		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 306		3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 340		3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
Term Semester Hours:		13
Spring		
ED 371	TCHG ELEM LANGUAGE ARTS	3
ED 375	TCHG READING IN PRIMARY GRADES	3
ED 360	EARLY CHILDHOOD EDUC PRACTICUM	3
ED 320		3
EDC 351	BEHAVIOR ONLY INTERVENTION	3
Term Semester Hours:		15
Summer		
EDC 302	INTRO LOW INCIDENCE POPULATION	3
EDC 341	ASSESS/PLN TRANSITION K-12 STU	3
Term Semester Hours:		6
Year 4		
Fall		
ED 330		3
ED 374	TCHG ELEM MATHEMATICS	3
EDC 321	COLLAB CONSU(PARENT-TCHR-TEAM)	3
EDC 316		3
EDC 361		3
Term Semester Hours:		15
Spring		

ED 490 Internship	12
Term Semester Hours:	12
Total Semester Hours:	121

Elementary Education (K-6), BA

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 & 101S	COLLEGE WRITING I and COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		3
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	

or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

Mathematics	3
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 230	MATH FOR ELEMENTARY TEACHERS
MA 231	MATH FOR ELEM SCH TCHERS II
MA 171	CALCULUS A (or Higher)
Natural Sciences (Lab)	8
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119	PRINCIPLES OF BIOLOGY ¹
BYS 120	ORGANISMAL BIOLOGY
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
AES 103	ENVIRONMENTAL EARTH SCIENCE
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II

PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre-Professional Courses		
Mathematics		9
Science w/Lab		4
Elective Credit		1-3
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
Internship		
ED 493	ELEMENTARY SCHOOL INTERNSHIP	12
Teaching Field		
ED 315	EDUC EVALUATION & MEASUREMENT	3
ED 371	TCHG ELEM LANGUAGE ARTS	3
ED 372	TCHG ELEM SOCIAL STUDIES	3
ED 373	TCHG NATURL/HLTH SCIENCE	3
ED 374	TCHG ELEM MATHEMATICS	3
ED 375	TCHG READING IN PRIMARY GRADES	3
ED 405	RDG STRATEGIES INTERMED GRADES	3
ED 310	TCHNG THE ARTS IN ELEM SCHOOLS	2
KIN 464	HEALTH/PE FOR ELEM TEACHERS	2
ED 360	EARLY CHILDHOOD EDUC PRACTICUM	3
Diversity Electives: Choose 3		

ED 401	FNDS OF REFLECTIVE TEACHING	3
ED 402	SPECIAL TOPICS IN EDUCATION	3
ED 413	CHILDREN'S & ADOLESCENT LIT	3
EDC 302	INTRO LOW INCIDENCE POPULATION	3
EDC 321	COLLAB CONSU(PARENT-TCHR-TEAM)	3
EDC 331	CRITICAL ISSUES IN SPEC EDUC	3
EDC 341	ASSESS/PLN TRANSITION K-12 STU	3
EDC 351	BEHAVIOR ANLY & INTERVENTION	3
ESL 400	POLICY & PRAC IN EDUC LINGUIST	3
ESL 410	INTRO TO LANGUAGE SYSTEMS	3
ESL 420	INSTR & ACADMC LANG CNTNT DOMN	3
ESL 430	SPECIAL TOPICS IN ESOL	3
ESL 440	INSTRUC & EVAL OF LANG USE	3
ECH 306	PRINCPLS OF EARLY CHILDHOOD ED	3
ECH 320	DIFF INSTR FOR EARLY LEARNERS	3
ECH 330	ASSESSMENT OF YOUNG LEARNERS	3
ECH 340	LANGUAGE, SPEECH & LITERCY DEV	3

Other ED Courses approved by the Department

Total Semester Hours

123-127

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Elementary Education (K-6), BA - Collaborative Education (K-6)

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		3
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	

or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

Mathematics	3
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 230	MATH FOR ELEMENTARY TEACHERS
MA 231	MATH FOR ELEM SCH TCHERS II
MA 171	CALCULUS A (or Higher)
Natural Sciences (Lab)	8
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119	PRINCIPLES OF BIOLOGY ¹
BYS 120	ORGANISMAL BIOLOGY

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
AES 103	ENVIRONMENTAL EARTH SCIENCE
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social Behavioral Sciences

History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre-Professional Courses		
Mathematics		9
Science w/Lab		4
Elective Credit		1-3
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3

ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
Internship		
ED 493	ELEMENTARY SCHOOL INTERNSHIP	12
Teaching Field		
ED 315	EDUC EVALUATION & MEASUREMENT	3
ED 371	TCHG ELEM LANGUAGE ARTS	3
ED 372	TCHG ELEM SOCIAL STUDIES	3
ED 373	TCHG NATURL/HLTH SCIENCE	3
ED 374	TCHG ELEM MATHEMATICS	3
ED 375	TCHG READING IN PRIMARY GRADES	3
ED 405	RDG STRATEGIES INTERMED GRADES	3
ED 310	TCHNG THE ARTS IN ELEM SCHOOLS	2
KIN 464	HEALTH/PE FOR ELEM TEACHERS	2
ED 360	EARLY CHILDHOOD EDUC PRACTICUM	3
EDC 302	INTRO LOW INCIDENCE POPULATION	3
EDC 321	COLLAB CONSU(PARENT-TCHR-TEAM)	3
EDC 331	CRITICAL ISSUES IN SPEC EDUC	3
EDC 341	ASSESS/PLN TRANSITION K-12 STU	3
EDC 351	BEHAVIOR ANLY & INTERVENTION	3
Total Semester Hours		123-127

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Elementary Education (K-6), BA - Language and Culture Option

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	

EH 242	MYTHOLOGY	
Humanities and Fine Arts		3
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		
Mathematics		3
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
MA 171	CALCULUS A (or Higher)	

Natural Sciences (Lab)		8
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY ¹	
BYS 120	ORGANISMAL BIOLOGY	
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
AES 103	ENVIRONMENTAL EARTH SCIENCE	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	

Area IV: History and Social Behavioral Sciences

History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre-Professional Courses		
Mathematics		9
Science w/Lab		4
Elective Credit		1-3

Professional Studies

ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3

Internship

ED 493	ELEMENTARY SCHOOL INTERNSHIP	12
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Teaching Field

ED 315	EDUC EVALUATION & MEASUREMENT	3
ED 371	TCHG ELEM LANGUAGE ARTS	3
ED 372	TCHG ELEM SOCIAL STUDIES	3
ED 373	TCHG NATURL/HLTH SCIENCE	3
ED 374	TCHG ELEM MATHEMATICS	3
ED 375	TCHG READING IN PRIMARY GRADES	3
ED 405	RDG STRATEGIES INTERMED GRADES	3
ED 413	CHILDREN'S & ADOLESCENT LIT	3
ED 310	TCHNG THE ARTS IN ELEM SCHOOLS	2
KIN 464	HEALTH/PE FOR ELEM TEACHERS	2
ED 360	EARLY CHILDHOOD EDUC PRACTICUM	3
ESL 400	POLICY & PRAC IN EDUC LINGUIST	3
ESL 410	INTRO TO LANGUAGE SYSTEMS	3
ESL 420	INSTR & ACADMC LANG CNTNT DOMN	3
ESL 440	INSTRUC & EVAL OF LANG USE	3

Total Semester Hours**123-127**

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Biology

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6

EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		
Mathematics		3-4
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		16
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB	

PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Professional Studies		
CH 301	ELEMENTARY BIOCHEMISTRY	3
AES 103	ENVIRONMENTAL EARTH SCIENCE	4
AES 103L	LABORATORY	0
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 423	TCHNG SCIENCE MID & SEC SCH I	2
ED 433	TEACH SC MID & SEC SCHOOL II	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
BYS 119	PRINCIPLES OF BIOLOGY	3
BYS 120	ORGANISMAL BIOLOGY	3
BYS 219	GENETICS AND EVOLUTION	3
BYS 300	CELL & DEVELOPMENTAL BIOLOGY	4
BYS 312	PRINCIPLES OF ECOLOGY	4
BYS 321	GENERAL MICROBIOLOGY I	4
BYS 490	SENIOR CAPSTONE	2

BYS 300+ Electives

6

Total Semester Hours**132-136**

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Biology and General Sciences

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	

WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Science		
Mathematics		3-4
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		16
BYS 119	PRINCIPLES OF BIOLOGY	
BYS 120	ORGANISMAL BIOLOGY	
CH 121	GENERAL CHEMISTRY I	
& CH 125	and GENERAL CHEMISTRY LAB I	
CH 123	GENERAL CHEMISTRY II	
& CH 126	and GENERAL CHEMISTRY LAB II	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Professional Studies		
PH 101	GENERAL PHYSICS I	4
PH 101L	GENERAL PHYSICS I LAB	0
PH 102	GENERAL PHYSICS II	4
PH 102L	GENERAL PHYSICS LAB II	0
AES 103	ENVIRONMENTAL EARTH SCIENCE	4
AES 103L	LABORATORY	0
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 423	TCHNG SCIENCE MID & SEC SCH I	2
ED 433	TEACH SC MID & SEC SCHOOL II	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
BYS 219	GENETICS AND EVOLUTION	3
BYS 300	CELL & DEVELOPMENTAL BIOLOGY	4
BYS 312	PRINCIPLES OF ECOLOGY	4
BYS 321	GENERAL MICROBIOLOGY I	4
CH 223	QUANTITATIVE ANALYSIS	3
CH 224	QUANTITATIVE ANALYSIS LAB	1
CH 301	ELEMENTARY BIOCHEMISTRY	3
CH 331	ORGANIC CHEMISTRY I	3
CH 331R	ORGANIC CHEM I RECITATION	0
CH 332	ORGANIC CHEMISTRY II	3
CH 332R	ORGANIC CHEM II RECITATION	0
CH 336	ORGANIC CHEMISTRY LAB II	1
CH 401	INORGANIC CHEMISTRY	3
Total Semester Hours		134-140

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Chemistry

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts**Fine Arts****3**

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature**3-6**

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 242	MYTHOLOGY

Humanities and Fine Arts**6**

CM 113	Intro to Rhetorical Communication ¹
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS

TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics		
Mathematics		3=4
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		8
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Professional Studies		
BYS 119	PRINCIPLES OF BIOLOGY	3
BYS 120	ORGANISMAL BIOLOGY	3
AES 103	ENVIRONMENTAL EARTH SCIENCE	4
AES 103L	LABORATORY	0
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 423	TCHNG SCIENCE MID & SEC SCH I	2
ED 433	TEACH SC MID & SEC SCHOOL II	2
Internship		

ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 331R	ORGANIC CHEM I RECITATION	0
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
CH 332R	ORGANIC CHEM II RECITATION	0
CH 347	BIOPHYSICAL CHEMISTRY I	3
CH 348	BIOPHYSICAL CHEMISTRY II	3
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
CH 401	INORGANIC CHEMISTRY	3
Total Semester Hours		123-132

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - English Language Arts

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S or WLC 101A	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC	

or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

Mathematics	4
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A (or Higher)
Natural Sciences (Lab)	8
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119	PRINCIPLES OF BIOLOGY ¹
BYS 120	ORGANISMAL BIOLOGY
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II

CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
AES 101	EXPLORING SPACE SC & ENGR	
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 103L	LABORATORY	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social Behavioral Sciences		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre Professional Studies		
Choose two courses from Arts, Humanities, and Social Sciences (EH, CM, MU, ARH, WLC, HY, PHL, SOC, ECN, GS, GSS, or GY)		6
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3

EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 421	SECNDRY ELA INSTR WRIT TO READ	2
ED 431	SEC ELA METHD: READING TO WRIT	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
Literature from GER		3
EH 305	INTRO TO LITERARY STUDIES	3
EH 400	COMPOSITION STUDIES FOR TCHERS	3
ESL 410	INTRO TO LANGUAGE SYSTEMS	3
EH 300-400: American Literature		3
EH 300-400: British Literature		3
Literature Elective (May include ED 413)		3
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
Theatre/Drama (select 2):		
TH 221	ACTING	3
CM 205	INTRO TO JOURNALISM (300+ Theater (TH) or CM course with approval)	3
CM 430	MASS MEDIA IN AMERICA	3
300+ Theater (TH) or Communication (CM) course with Departmental Approval		3
Total Semester Hours		120-126

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Foreign Language

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6

CM 113	Intro to Rhetorical Communication ¹
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**Mathematics**

3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 230	MATH FOR ELEMENTARY TEACHERS
MA 231	MATH FOR ELEM SCH TCHERS II
MA 171	CALCULUS A (or Higher)

Natural Sciences (Lab)

8

BYS 109	FUNDAMENTALS OF BIOLOGY
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BYS 119	PRINCIPLES OF BIOLOGY ¹
BYS 120	ORGANISMAL BIOLOGY
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
AES 100	INTRODUCTION TO SPACE SCIENCE
AES 101	EXPLORING SPACE SC & ENGR
AES 103	ENVIRONMENTAL EARTH SCIENCE
AES 103L	LABORATORY
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social Behavioral Sciences

History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre Professional Studies		
Choose two courses from Arts, Humanities, and Social Sciences (EH, CM, MU, ARH, HY, PHL, SOC, ECN, GY, ESS, or GS).		6
Professional Studies		

ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 425	METHODS OF TEACHG WORLD LANGUA	2
ED 435	DIFF INSTR IN WORLD LANGUAGES	2

Internship

ED 497	HIGH SCHOOL INTERNSHIP	12
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Teaching Field

Certification Available in Spanish, French, and German

WLC 101F	INTRO FOREIGN LANG I:FRENCH	3
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101S	INTRO FOREIGN LANG I: SPANISH	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	3
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102S	INTRO FOREIGN LANG II:SPANISH	
WLC 201F	INTERM FOREIGN LANG:FRENCH	3
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201S	INTERM FOREIGN LANG:SPANISH	
WLC 202F	INTERM FOREIGN LANG II:FRENCH	3
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202S	INTERM FOREIGN LANG II:SPANISH	
WLC 204	INTERNATIONAL CINEMA	3
WLC 301F	CONVERSATION:FRENCH	3
or WLC 301G	CONVERSATION:GERMAN	
or WLC 301S	CONVERSATION:SPANISH	
WLC 302F	COMPOSITION:FRENCH	3
or WLC 302G	COMPOSITION:GERMAN	
or WLC 302S	COMPOSITION:SPANISH	
WLC 303F	FOREIGN LANG LIFE & PROF:FRENC	3
or WLC 303G	FOREIGN LANG LIFE & PROF:GERMA	
or WLC 303S	FOREIGN LANG LIFE & PROF:SPANI	
WLC 304F	CULTURE:FRENCH	3
or WLC 304G	CULTURE:GERMAN	
or WLC 304S	CULTURE:SPANISH	
WLC 305F	INTRO TO LITERATURE:FRENCH	3
or WLC 305G	INTRO TO LITERATURE:GERMAN	
or WLC 305S	INTRO TO LITERATURE:SPANISH	
WLC 404F	TEXTS & CONTEXTS:SEM LIT:FRENC	3
or WLC 404G	TEXTS & CONTEXTS:SEM LIT/GERMA	
or WLC 404S	TEXTS & CONTEXTS:SEM LIT:SPANI	
WLC 410	INT'L INTERN:COMP LANG/CULT	3-6

Total Semester Hours**123-129**

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - History

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		3
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F or WLC 202G or WLC 202J or WLC 202R	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH INTERM FOREIGN LANG II:GERMAN INTERM FORGN LANG II:JAPANESE INTERM FOREIGN LANG II:RUSSIAN	

WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
CM 113	Intro to Rhetorical Communication ¹	3

Area III: Mathematics and Sciences**Mathematics** 3-4

MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
MA 171	CALCULUS A (or Higher)	

Natural Sciences (Lab) 8

BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY ¹	
BYS 120	ORGANISMAL BIOLOGY	
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 103L	LABORATORY	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	

Area IV: History and Social Behavioral Sciences

History		3
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
PY 101	GENERAL PSYCHOLOGY I ¹	3
PY 201	LIFE-SPAN DEVELOPMENT ¹	3
Social and Behavioral Sciences		3
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre Professional Studies		
Choose two course from Arts, Humanities, and Social Sciences (EH, CM, MU, ARH, HY, WLC, PHL, PSC, SOC, ECN, GS, or GY).		
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 424	TCHNG SOC STUD MID & SEC SCH I	2
ED 434	TCHG SOC ST MID & SEC SCHLS II	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
HY 104	WORLD HISTORY SINCE 1500	3
HY 221	UNITED STATES TO 1877	3
HY 222	UNITED STATES SINCE 1877	3
HY 300	CRAFT OF HISTORY	3
HY 325	HISTORY OF ALABAMA	3
HY 490	RESEARCH SEMINAR IN HY	3
American History 300+		6
Non-American History 300+		6
History Electives 300+		6
Total Semester Hours		120-124

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - History and Social Sciences

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH	

or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		8
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY ¹	
BYS 120	ORGANISMAL BIOLOGY	
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 101	GENERAL PHYSICS I	
PH 100	CONCEPTUAL PHYSICS	4
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 103L	LABORATORY	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

PH 113 GEN PHYSICS W/CALC III
& PH 116 and GENERAL PHYSICS LAB III

Area IV: History and Social Behavioral Sciences

History		3
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre Professional Studies		
SOC 100	INTRO TO SOCIOLOGY	3
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 424	TCHNG SOC STUD MID & SEC SCH I	2
ED 434	TCHG SOC ST MID & SEC SCHLS II	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
History:		
HY 104	WORLD HISTORY SINCE 1500	3
HY 221	UNITED STATES TO 1877	3
HY 222	UNITED STATES SINCE 1877	3
HY 300	CRAFT OF HISTORY	3
HY 325	HISTORY OF ALABAMA	3
HY 490	RESEARCH SEMINAR IN HY	3
American History 300+		6

Non-American History 300+		6
History Elective 300+		6
Social Science Courses:		
PSC 101	INTRO TO AMERICAN GOVERNMENT	3
or PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	3
ECN 142	PRINC OF MACROECONOMICS	3
ECN 143	PRINC OF MICROECONOMICS	3
AES 105	WORLD REGIONAL GEOGRAPHY	3
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	3
Total Semester Hours		134-138

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Mathematics

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH	

or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences

Mathematics		4
MA 171	CALCULUS A (or Higher)	
Natural Sciences (Lab)		8
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY ¹	
BYS 120	ORGANISMAL BIOLOGY	
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 105	GENERAL CHEMISTRY I and INTRO CHEMISTRY LAB	
CH 123 & CH 125	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB I	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
AES 103	ENVIRONMENTAL EARTH SCIENCE	
AES 103L	LABORATORY	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

¹ Required course

Code	Title	Semester Hours
Pre Professional Studies		
CS 102	INTRO TO C PROGRAMMING	3
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 422	MIDDLE & SECD SCH MATH METHODS	2
ED 432	TCH REASON/PROOF SEC MATH	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
MA 330	FOUNDATIONS OF MATH	3
MA 385	INTRO TO PROBABILITY & STATIST	3

MA 433	INTRODUCTION TO GEOMETRY	3
MA 442	ALGEBRAIC STRUCTURES W/APPLIC	3
MA 452	INTRO TO REAL ANALYSIS	3
MA/ST 487	INTRO TO MATH STATISTICS	3
Math Electives 300+		6
Total Semester Hours		123-126

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Secondary Education, BS - Physics

Degree Requirements

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC	

or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		
Mathematics		12
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
Natural Sciences (Lab)		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
Area IV: History and Social Behavioral Sciences		
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
PY 101	GENERAL PSYCHOLOGY I ¹	
PY 201	LIFE-SPAN DEVELOPMENT ¹	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
SOC 100	INTRO TO SOCIOLOGY	

SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

¹ Required course

Code	Title	Semester Hours
Professional Studies		
AES 103	ENVIRONMENTAL EARTH SCIENCE	4
BYS 119	PRINCIPLES OF BIOLOGY	3
AES 103L	LABORATORY	0
MA 238	APPL DIFFERENTIAL EQUATIONS	3
or MA 244	INTRO TO LINEAR ALGEBRA	
Professional Studies		
ED 301	INTRO TO EDUCATION PRACTICUM	0
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 350	TECHNOLOGY IN CLASSROOM	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
ED 408	TCHG READING/CONTENT AREA	3
ED 410	FOUNDATIONS EDUC EVALUAT	3
ED 423	TCHNG SCIENCE MID & SEC SCH I	2
ED 433	TEACH SC MID & SEC SCHOOL II	2
Internship		
ED 497	HIGH SCHOOL INTERNSHIP	12
Teaching Field		
PH 110	FRONTIERS IN SCIENCE	3
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY	1
PH 301	INTERMEDIATE MECHANICS	3
PH 305	MATH METHODS IN PHYSICS	3
PH 351	INTRODUCTION TO MODERN PHYSICS	3
PH 499	PHYSICS PRACTICUM	3
Electives: Choose two		7
AST 300+		
PH 300+		
OPT 300+		
Total Semester Hours		133-136

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Additional Collaborative Certification (6-12)

Code	Title	Semester Hours
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
EDC 302	INTRO LOW INCIDENCE POPULATION	3
EDC 331	CRITICAL ISSUES IN SPEC EDUC	3
EDC 341	ASSESS/PLN TRANSITION K-12 STU	3
EDC 351	BEHAVIOR ANLY & INTERVENTION	3

Students in this program may be required to take up to 6 more hours in "literacy". Check with the Department for more information.

Total Semester Hours	18
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This program is completed along with a Secondary Education program in English, History, General Social Sciences, Biology, Chemistry, Physics, General Science, and Mathematics. Students complete a split internship between General Education (High School) and Collaborative Education (Middle School). Depending on the content area, student may be required to take up to 6 more hours of "literacy" courses to complete this certification. Please discuss with Dr. Derrick Smith or Dr. Whitney Meade to determine which courses need to be taken.

Child, Family, and Community Development, BS

The B.S. in Child, Family & Community Development (CFCD) degree provides opportunities for students who wish to work with young children and their families in a community setting outside of a formal public or private school setting (meaning without a state-issued teaching certification). This program will develop leaders in the field who focus on improving the lives of young children and families whether that be through high-quality early care and education programs, non-profits, children's museums, recreation centers or similar specialized programming, etc. The focus on leadership development as it relates to the development and implementation of high-quality early care and education programs as well as programming for the family unit as a whole is a vital need in our immediate area.

The BS in CFCD has two "concentrations": (1) Leadership in Early Learning and Family Relations and (2) Recreation and Community Leadership. The program of study for both is listed below.

This program is awaiting SACSCOC approval with an ANTICIPATED start date of Spring 2023.

B.S. in CFCD: Leadership in Early Learning and Family Relations Concentration

Code	Title	Semester Hours
Area I: Freshman Composition		6
EH 101	COLLEGE WRITING I	
EH 101L	STUDIO FOR COLLEGE WRITING I	
EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature ²		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	

EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
WLC 101A	INTRO FOREIGN LANG I: ARABIC	
WLC 101F	INTRO FOREIGN LANG I:FRENCH	
WLC 101G	INTRO FOREIGN LANG I:GERMAN	
WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
WLC 101MS	INTRO TO MEDICAL SPANISH	
WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102A	INTRO FOREIGN LANG II: ARABIC	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	
WLC 102G	INTRO FOREIGN LANG II:GERMAN	
WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
WLC 102MS	INTRO TO MEDICAL SPANISH II	
WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
WLC 201A	INTERM FOREIGN LANG I: ARABIC	
WLC 201F	INTERM FOREIGN LANG:FRENCH	
WLC 201G	INTERM FOREIGN LANG:GERMAN	
WLC 201J	INTERM FOREIGN LANG: JAPANESE	
WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
WLC 202A	INTERM FOREIGN LANG II: ARABIC	
WLC 202F	INTERM FOREIGN LANG II:FRENCH	
WLC 202G	INTERM FOREIGN LANG II:GERMAN	
WLC 202J	INTERM FORGN LANG II:JAPANESE	
WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
ARH 120	ARH SUR: SPECIAL TOPICS	
Area II: Mathematics and Sciences		
Mathematics		3
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
Natural Sciences (Lab)		8
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY	
BYS 120	ORGANISMAL BIOLOGY	

BYS 121	LABORATORY
AST 100	SURVEY OF ASTRONOMY
AST 100L	SURVEY OF ASTRONOMY LAB
AST 106	EXPLORING THE COSMOS I
AST 106L	ASTRONOMY LABORATORY
AST 107	EXPLORING THE COSMOS II
AST 107L	GEN ASTRONOMY II LAB
CH 101/105	INTRO TO CHEMISTRY
CH 121	GENERAL CHEMISTRY I
CH 123	GENERAL CHEMISTRY II
CH 151	GENERAL, ORGANIC, BIOCHEMISTRY
PH 100	CONCEPTUAL PHYSICS
PH 100L	CONCEPTUAL PHYSICS LAB
PH 101	GENERAL PHYSICS I
PH 101L	GENERAL PHYSICS I LAB
PH 102	GENERAL PHYSICS II
PH 102L	GENERAL PHYSICS LAB II
PH 111	GEN PHYSICS W/CALCULUS I
PH 111R	RECITATION
PH 114	GENERAL PHYSICS LAB I
PH 112	GEN PHYSICS W/CALC II
PH 112R	RECITATION
PH 115	GENERAL PHYSICS LAB II
PH 113	GEN PHYSICS W/CALC III
PH 113R/116	RECITATION
PH 116	GENERAL PHYSICS LAB III

Area IV: History and Social Behavioral Sciences

History ²	3-6
HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Sciences	6
PY 101	GENERAL PSYCHOLOGY I ¹
PY 201	LIFE-SPAN DEVELOPMENT ¹

Pre-Professional Courses

Approved Electives in ECH, ED, EDC, SOC, PY, or related fields	19
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Major Courses

CFC 305	FAMILY, SCHOOLS & COMMUNITY	3
CFC 325	POSITIVE YOUTH DEVELOPMENT	3
CFC 335	CRITICAL ISSUES COMMUNITY	3
CFC 451	LEADERSHIP YOUTH & COMMUNITY	3
KIN 340	SCHOOL AND COMMUNITY HEALTH	3
ECH 320	DIFF INSTR FOR EARLY LEARNERS	3
ECH 330	ASSESSMENT OF YOUNG LEARNERS	3
ECH 340	LANGUAGE, SPEECH & LITERACY DEV	3
ED 309	CLASSROOM & BEHAVIOR MGMT	3
ED 413	CHILDREN'S & ADOLESCENT LIT	3
EDC 316	DIFFER INSTR FOR ECSE	3
KIN 455	MOTOR LEARNING	3
MGT 301	MANAGING ORGANIZATIONS	3
MGT 320	CAREER DEVELOPMENT	3

MGT 361	ORGANIZATIONAL BEHAVIOR	3
MGT 363	HUMAN RESOURCE & LABOR REL MGT	3
MGT 408	TEAMWORK & TEAM PROCESSES	3
MGT 410	LEADERSHIP, PERSONAL DEV & ORG	3
Internship (CFC 495)		6

Total Semester Hours**117-123**¹Required Course²Take either 1 EH (Literature) + 2 HY (History) **or** 2 EH + 1 HY.**B.S. in CFCD: Recreation and Community Leadership**

Code	Title	Semester Hours
Area I: Freshman Composition		6
EH 101	COLLEGE WRITING I	
EH 101L	STUDIO FOR COLLEGE WRITING I	
EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts		3
Fine Arts		
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 242	MYTHOLOGY	
Humanities and Fine Arts		6
CM 113	Intro to Rhetorical Communication ¹	
WLC 101A	INTRO FOREIGN LANG I: ARABIC	
WLC 101F	INTRO FOREIGN LANG I:FRENCH	
WLC 101G	INTRO FOREIGN LANG I:GERMAN	
WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
WLC 101MS	INTRO TO MEDICAL SPANISH	
WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
WLC 102A	INTRO FOREIGN LANG II: ARABIC	
WLC 102F	INTRO FOREIGN LANG II:FRENCH	
WLC 102G	INTRO FOREIGN LANG II:GERMAN	
WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
WLC 102MS	INTRO TO MEDICAL SPANISH II	
WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
WLC 199A	SPECIAL TOPICS	

WLC 199F	SPECIAL TOPICS
WLC 199G	SPECIAL TOPICS
WLC 199J	SPECIAL TOPICS
WLC 199R	SPECIAL TOPICS
WLC 199S	SPECIAL TOPICS
WLC 201A	INTERM FOREIGN LANG I: ARABIC
WLC 201F	INTERM FOREIGN LANG:FRENCH
WLC 201G	INTERM FOREIGN LANG:GERMAN
WLC 201J	INTERM FOREIGN LANG: JAPANESE
WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
WLC 202A	INTERM FOREIGN LANG II: ARABIC
WLC 202F	INTERM FOREIGN LANG II:FRENCH
WLC 202G	INTERM FOREIGN LANG II:GERMAN
WLC 202J	INTERM FORGN LANG II:JAPANESE
WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
ARH 120	ARH SUR: SPECIAL TOPICS

Area III: Mathematics and Science

Mathematics		3
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 230	MATH FOR ELEMENTARY TEACHERS	
MA 231	MATH FOR ELEM SCH TCHERS II	
Natural Sciences (Lab)		8
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119	PRINCIPLES OF BIOLOGY	
BYS 120	ORGANISMAL BIOLOGY	
BYS 121	LABORATORY	
AST 100	SURVEY OF ASTRONOMY	
AST 100L	SURVEY OF ASTRONOMY LAB	
AST 106	EXPLORING THE COSMOS I	
AST 106L	ASTRONOMY LABORATORY	
AST 107	EXPLORING THE COSMOS II	
AST 107L	GEN ASTRONOMY II LAB	
CH 101	INTRO TO CHEMISTRY	
CH 105	INTRO CHEMISTRY LAB	
CH 121	GENERAL CHEMISTRY I	
CH 121R	RECITATION	
CH 123	GENERAL CHEMISTRY II	
CH 123R	RECITATION	

CH 151	GENERAL, ORGANIC, BIOCHEMISTRY
PH 100	CONCEPTUAL PHYSICS
PH 100L	CONCEPTUAL PHYSICS LAB
PH 101	GENERAL PHYSICS I
PH 101L	GENERAL PHYSICS I LAB
PH 102	GENERAL PHYSICS II
PH 102L	GENERAL PHYSICS LAB II
PH 111	GEN PHYSICS W/CALCULUS I
PH 111R	RECITATION
PH 114	GENERAL PHYSICS LAB I
PH 112	GEN PHYSICS W/CALC II
PH 112R	RECITATION
PH 115	GENERAL PHYSICS LAB II
PH 113	GEN PHYSICS W/CALC III
PH 113R	RECITATION
PH 116	GENERAL PHYSICS LAB III

Area IV: History and Social Behavioral SciencesHistory ² 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6

PY 101	GENERAL PSYCHOLOGY I
PY 102	APPLICATIONS IN PSYCHOLOGY

Pre-Professional Courses 19

Approved Electives in ECH, ED, EDC, SOC, PY, or related fields

Major Courses

CFC 305	FAMILY, SCHOOLS & COMMUNITY	3
CFC 325	POSITIVE YOUTH DEVELOPMENT	3
CFC 335	CRITICAL ISSUES COMMUNITY	3
CFC 451	LEADERSHIP YOUTH & COMMUNITY	3
KIN 340	SCHOOL AND COMMUNITY HEALTH	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
KIN 361	TEACHING TEAM SPORTS	3
KIN 362	TEACHING INDIVIDUAL ACTIVITIES	3
KIN 363	TEACHING FITNESS & WELLNESS	3
KIN 445	PRINCIPLES OF COACHING	3
MGT 301	MANAGING ORGANIZATIONS	3
MGT 363	HUMAN RESOURCE & LABOR REL MGT	3
MGT 410	LEADERSHIP, PERSONAL DEV & ORG	3
SFM 381	FACILITIES AND EQUIPMENT MGT	3
SFM 384	EVENT MANAGEMENT	3
SFM 470	SPORT MARKETING	3

Internship (CFE 495) 3

Electives in CFC (CFC 460 and CFC 461) 6

Total Semester Hours**114-120**

Health and Physical Education

Activity Courses

Our activity courses provide fun ways for students to improve overall health. Check out the variety of courses available!

Group Fitness

Aerobics
Butts and Guts Workout
Weight Training
Yoga

Sports and Recreation

Swimming
Tennis
Volleyball
Basketball
Ballroom Dance
Walk/Jog/Run
Judo/Jujitsu
Karate
Ladies' Self-Defense

HPE 100 - AEROBICS
Semester Hours: 2

Improve cardiovascular fitness, flexibility, muscular strength and endurance, balance, and postural alignment. This class will focus on aerobic activity, specifically in the form of low- and high- impact aerobics. A wide variety of exercises will be included to provide a total-body workout.

HPE 105 - CARDIO DANCE
Semester Hours: 1-2

HPE 109 - SPEED & PLYOMETRIC TRAINING
Semester Hours: 2

HPE 110 - WALK/JOG/RUN
Semester Hour: 1

A beginner and intermediate level course with emphasis placed on giving a positive introduction to walking, jogging, and running as a way to enhance fitness and promote weight control, and to provide a viable option for a lifetime fitness activity.

HPE 111 - BUTTS & GUTS WORKOUT
Semester Hours: 2

HPE 117 - WEIGHT TRAINING
Semester Hours: 2

Learn to safely and efficiently use strength training techniques to reach your fitness goals. Develop the skills needed to create a personalized weight training program.

HPE 120 - SWIMMING
Semester Hour: 1

Learn the basic or progress in your swimming by learning the common swim strokes and techniques. Introduction to conditioning and training and work toward improving skills and endurance bringing higher efficiency in the water.

HPE 127 - LADIES SELF-DEFENSE
Semester Hour: 1

Explore the concepts, strategies, and methods of self defense. Topics and skills include wrist escapes, falling skills, various strikes and kicks, groundwork, weaponry, and escape tactics. Further, an emphasis will be placed on developing and improving situational awareness.

HPE 129 - KUNG FU

Semester Hours: 2

Kung Fu has become one of the most popular forms of martial arts. Students will be introduced to Sil Lum Tao, the first in the three forms of Wing Chun Kung Fu. The name means "little imagination" and refers to the need of the student to use their imagination in the practice and application of techniques.

HPE 130 - KARATE

Semester Hours: 2

Learn karate techniques and acquire skills required to perform these techniques. The objective of Karate is to teach the student defensive skills through various stances and self-defense techniques.

HPE 133 - AIKIDO

Semester Hour: 1

HPE 134 - T'AI CHI

Semester Hours: 2

Learn an ancient Chinese exercise and martial art which is used to develop one's internal energy, health and well-being. The 37 postures of the short form in the Yang style will be executed.

HPE 135 - INTERMEDIATE T'AI CHI

Semester Hours: 2

HPE 136 - YOGA

Semester Hour: 1

HPE 137 - JUDO/JUJITSU

Semester Hours: 2

Judo/Jujitsu provides students with an introduction to the Japanese martial arts of Judo and Jujitsu. Focus will be on both the competition aspect of Judo and the self-defense aspects of each art including throws, take-downs, joint manipulation and chokes.

HPE 140 - BALLROOM DANCE

Semester Hours: 2

An introduction to the most popular smooth and rhythm ballroom patterns danced in America including the Waltz, Fox Trot, Tango, Cha-Cha, Rumba, Samba, Merengue, Bolero, Polka, Swing, and Mambo. Learn the appropriate skills necessary to become a social dancer, including leading, following etiquette and partner dancing.

HPE 142 - SWING DANCE

Semester Hours: 2

HPE 144 - COUNTRY WESTERN DANCE

Semester Hour: 1

HPE 150 - RACQUETBALL

Semester Hours: 2

Learn the basic of racquetball, including rules, equipment and skills. Singles (2 players), Cut throat (3 players) and Doubles (4 players) versions of racquetball will be taught. Double games during class times will be played when both safety and skill level of the players are acceptable to the instructor.

HPE 153 - TENNIS

Semester Hour: 1

Students will learn the fundamentals of tennis including forehand, backhand, serve, volley, footwork, and ground strokes. There will be both singles and doubles play and a class tournament. Highlights include understanding the rules, regulations and strategies of the game.

HPE 156 - GOLF

Semester Hour: 1

Students will understand and learn the basic skills of golf, including rules, proper stance, grip and swing for all clubs. Clubs are available if needed.

HPE 167 - ROCK CLIMBING

Semester Hours: 2

\$100 fee to be paid directly to Rock Climbing facility.

HPE 169 - BASKETBALL

Semester Hour: 1

HPE 170 - VOLLEYBALL

Semester Hour: 1

Learn the fundamentals skills of volleyball including passing, setting, hitting, blocking, and serving with advanced skills in spikes and positioning also being covered. Scrimmage games will be played to practice learned skills. This course will cover the rules of volleyball and its advantage as a lifetime sport, with a focus on skill development.

HPE 174 - BILLIARDS

Semester Hour: 1

HPE 199 - SP TOP:HLTH & PHYS ED

Semester Hours: 1-3

HPE 221 - ADVANCED SCUBA

Semester Hour: 1

Presents skills and knowledge for deep diving (80 + feet). Limited visibility diving, and advanced navigation techniques. Earn YMCA advanced open water certification. Students must provide mask, fins, and snorkel. Cost of open water dives not included in lab fee.

HPE 223 - LIFEGUARD TRAINING

Semester Hours: 2

Certification as a Red Cross approved lifeguard upon successful completion of classroom and in-water instruction and testing.

HPE 224 - WATER SAFETY INSTRUCTOR

Semester Hours: 3

Techniques for teaching infant and pre-school aquatics. The American Red Cross Learn to Swim Program, and Basic Water and Emergency Water Safety courses. Includes pre-test and instructor candidate training course.

HPE 231 - INSTR AIRPLANE(IFR)RATING GR S

Semester Hours: 3

Provides student with knowledge needed for instrument flight instruction air training. Prepares student for FAA Instrument Flying Examination.

HPE 400 - SPECIAL TOPICS - INTERNSHIP

Semester Hours: 3

Innovative internship focused on working with students with disabilities. Observations, participation, and direct instruction and teaching in a middle or high school setting for a prescribed time.

Kinesiology

329 Wilson Hall

Telephone: 256.824.6007

Email: kin@uah.edu

Programs Offered

The **Bachelor of Science in Kinesiology** offers the following two concentration areas:

The **Exercise Science** concentration prepares students for fields of study in the health sciences, such as physical therapy, occupational therapy, and cardiovascular rehabilitation. Students will also be prepared for graduate studies in exercise physiology, biomechanics, and sports science (<https://www.uah.edu/education/departments/kinesiology/graduate-programs/sports-science/>). With an Exercise Science concentration, students are prepared for fitness and wellness professions, such as fitness training and instruction, corporate wellness, sports and strength coaching, and fitness and wellness center management. Program outcomes align with the standards of key professional associations such as the the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA).

The **Physical Education Teacher Education (P-12)** concentration prepares students to obtain the license required to teach physical education in Alabama. Students meet all Alabama Quality Teaching Standards and specific physical education standards established by the Alabama State Department of Education (ALSDE). These standards are aligned with the Society of Health and Physical Educators (SHAPE) teacher education standards and the Alabama Course of Study for Physical Education. Students who choose the Physical Education concentration must satisfy the requirements for admission to the UAH Teacher Education Program as outlined in the Unit Assessment System of the Institutional Report submitted by the Department of Education to CAEP.

The **Bachelor of Science in Sport and Fitness Management**

The **Sport and Fitness Management** degree program is designed for those students interested in the administrative aspect of sports and fitness. The purpose of the Sport and Fitness Management degree is to prepare students for both graduate studies and entry into management, marketing, and administrative positions in educational and sport business settings. The curriculum combines specialist industry courses with authentic in-class learning and significant practicum and real world experiences. Sport and Fitness Management graduates will also earn a minor in Business Administration.

Academic Advising

Students who are interested in the kinesiology degree program should contact the Department of Kinesiology at (256) 824-6007 to consult our advisor about program admission, curricular, and degree requirements.

Please contact Liz Redding at liz.redding@uah.edu.

- Kinesiology, Bachelor of Science - Exercise Science Concentration (p. 424)
- Kinesiology, Bachelor of Science - Physical Education Teacher Education Concentration (p. 429)
- Sport and Fitness Management, Bachelor of Science (p. 434)
- Coaching (p. 439)
- Health and Nutrition (p. 440)

KIN 200 - CONTEMPORARY NUTRITION

Semester Hours: 3

Introduction to the principles of nutrition as they relate to the growth, development, and maintenance of the human body throughout the lifespan. Emphasis is placed on the classes of nutrients, weight management, and nutritional planning.

KIN 205 - FIRST AID & CPR

Semester Hour: 1

Students will focus on recognizing emergency situations. First Aid and CPR also provides skills and knowledge necessary in caring for injuries or sudden illness.

KIN 210 - ATHLC INJURY PREVENTION & CARE

Semester Hours: 3

Presents the knowledge and techniques necessary to prevent and/or care for common athletic injuries. For coaches, athletes, and those working in recreation, physical education, or athletics.

KIN 215 - FIRST RESPONDER/PROFESSN'L CPR

Semester Hours: 2

Learn the concepts and skills needed to function as a First Responder and Professional Rescuer. Emphasis is placed on preparing for, recognizing, and providing emergency care in various situations where needed. Additionally, this course fully addresses the objectives in the U.S. Department of Transportation's National Standards Curriculum.

KIN 240 - HEALTH & WELLNESS CONCEPTS

Semester Hours: 3

This course provides students with an overview of individual and societal health and wellness and the impact of lifestyle choices. Laboratory experiences provide opportunity for assessment of individual health and fitness behaviors. Topics covered include: wellness, physical fitness, behavior modification, weight management, stress management, disease prevention, addictive behavior and sexual health.

KIN 250 - ESSENTIALS OF PERSONAL TRAIN'G

Semester Hours: 2

This course is designed to provide theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

KIN 260 - FOUNDATIONS OF KINESIOLOGY

Semester Hours: 3

An introductory course for students in the Kinesiology major. The course will provide an overview of the Kinesiology field, including all subdisciplines and an in-depth discussion of teacher v non-teacher career choices. The history and development of physical education, exercise science, and sport studies will be covered, as well as issues and trends in physical education, exercise science, and sport studies.

KIN 265 - INTRO TO SPORT MGMT

Semester Hours: 3

This 3 hour course provides the student with the knowledge of sport management and administration in both athletics and leisure-based sports. Topics include management concepts, roles and responsibilities, fiscal management, fundraising, legal issues, event scheduling, and decision making.

KIN 290 - EX TECHNIQUES & LEADERSHIP

Semester Hours: 3

This course provides a practical guide in leadership for group and individual exercise settings. Critical evaluation of a safe fitness environment, adult physical activity programs to promote health, and exercise techniques according to the American College of Sports Medicine and National Strength and Conditioning Association are included.

KIN 300 - NUTRITION FOR FITNESS & SPORT

Semester Hours: 3

Explores the theoretical and applied nutritional sciences as they relate to fitness and sport. Students will develop practical skills applicable to solving nutritional problems in exercising populations. Nutritional requirements and practices related to general fitness, athletic performance, and special needs individuals will also be covered.

KIN 315 - STRENGTH TRNG & CONDITION

Semester Hours: 3

This course provides a comprehensive overview of strength and athletic conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for the nationally accredited Certified Strength and Conditioning Specialist (CSCS) certification exam. Prerequisites: KIN 210, KIN 290, KIN 327 (C or better).

KIN 327 - EXERCISE PHYSIOLOGY

Semester Hours: 3

An introduction to the response and adaptations of the body systems to exercise and physical activity. Prerequisites: KIN 260, BYS 215 and BYS 216 with a grade of C- or better Co-requisite: KIN 328.

KIN 328 - EXERCISE PHYSIOLOGY

Semester Hour: 1

Exercise physiology lab experience to accompany the introduction to exercise physiology course lectures. The course meets two hours weekly for one credit hour. Co-requisite: KIN 327.

KIN 340 - SCHOOL AND COMMUNITY HEALTH

Semester Hours: 3

Obtain information and skills related to school and community health programs with an emphasis on health instruction, strategies, and resources. Survey the components of a school health program: school health services, healthful school environment, principles of physical and movement education, nutrition services, counseling and social services, parent/community involvement, health promotion for staff. Examine the core functions of public health, prevention of diseases and injuries, health needs of special populations, and functions of various organizations.

KIN 351 - EXER TEST & PRECR HEALTHY POP

Semester Hours: 3

Provides students with techniques that evaluate aerobic capacity, muscular strength and endurance, flexibility, and body composition. The development of exercise prescriptions based on evaluation results will be emphasized. Prerequisites: KIN 327 (C- or better grade) and KIN 328.

KIN 352 - EXER TEST & PRECR SPECIAL POP

Semester Hours: 3

This advanced-level course integrates both lecture and laboratory to prepare students with the knowledge and skills necessary to conduct fitness evaluations, exercise prescriptions, and risk stratification of at-risk individuals. Specific emphasis will be placed on the administration of safe fitness testing using protocols published by ACSM for the health related components of physical fitness. Prerequisites: KIN 351.

KIN 361 - TEACHING TEAM SPORTS

Semester Hours: 3

Teaching methods and strategies of sports that require more than one participant. While knowledge of how to play the sport will be taught, emphasis will be placed on the organization, management, and assessment of skills in activities such as, but not limited to soccer, handball, and basketball.

KIN 362 - TEACHING INDIVIDUAL ACTIVITIES

Semester Hours: 3

Teaching methods and strategies for games involving individuals rather than a team. Emphasis will be placed on the organization, management, and assessment of skills in activities including, but not limited to, aerobic dance, cross country/trail running, and tumbling/gymnastics.

KIN 363 - TEACHING FITNESS & WELLNESS

Semester Hours: 3

Learn to perform and instruct a variety of fitness activities. Emphasis will be placed on performing fitness skills and on the methods and techniques for instructing and teaching specific fitness activities. Techniques for evaluating the knowledge and skills of the activities will also be stressed.

KIN 370 - ADAPTED PHYSICAL EDUCATION

Semester Hours: 3

Develop knowledge of current concepts and trends in adapted physical education as well as the ability to plan and implement a physical education program designed to meet the unique needs of individuals.

KIN 371 - ADAPTED FITNESS

Semester Hours: 3

Develop knowledge of current concepts and trends in adapted physical fitness as well as the ability to plan and implement fitness and wellness programs designed to meet the unique needs of individuals, particularly those with disabilities and special needs. Prerequisite: KIN 260.

KIN 400 - NUTRITION IN HEALTH & DISEASE

Semester Hours: 3

This course will provide students an opportunity to examine the role of epigenetics in disease development, the impact of weight stigma on health and the makeup of a healthy relationship with food and exercise. Having knowledge on the complex components that make up a person's body shape and size will allow students to more accurately assess health status. Prerequisite: KIN 200 (C- or better).

KIN 418 - STRUCTURE/FUNCTIONAL KIN

Semester Hours: 3

This course will provide development of knowledge of anatomic systems related to purposeful movement of the human body. Thorough instruction of the structure and function of musculoskeletal system will be provided. Prerequisites: BYS 215 and BYS 216.

KIN 419 - EXERCISE & SPORT BIOMECHANICS

Semester Hours: 3

This course will provide an advanced understanding of biomechanical conditions of human movement as well as knowledge and skills needed to analyze and evaluate human motor performance in order to prescribe appropriate interventions for optimized application to rehabilitation and sports performance. Students will learn to appropriately represent kinematic and kinetic quantities as vectors and use vectors, vector addition, and vector resolution to enhance the understanding of basic mechanical concepts. Prerequisites: BYS 215, BYS 216, and PH 101; and either KIN 418 or BYS 402.

KIN 421 - INST APP TO SPORT PEDAGOGY

Semester Hours: 3

This class is designed to expand and enrich the teaching repertoire. Special emphasis will be given to how selected models of teaching can be used to achieve multiple outcomes of teaching in physical education and other contexts (e.g., physical activity programs & youth sport). Additionally, the course will increase awareness in other instructional areas related to the profession (teaching underserved youth, youth sports programs, etc.). Prerequisites: KIN 361 or KIN 362 or KIN 363.

KIN 427 - ENVIRONMENTAL EXERCISE PHYSIOL

Semester Hours: 3

KIN 427 will examine how the human body responds and adapts to diverse forms of environmental stress during exercise. The course will focus on the responses and adaptations that occur from performing exercise under various environmental conditions. Prerequisite: KIN 327.

KIN 445 - PRINCIPLES OF COACHING

Semester Hours: 3

Gain knowledge and skills specific to coaching: developing a coaching philosophy and objectives, motivating athletes, managing a team. Emphasis is placed on sport at the high school and club level with consideration given to coaching youth, recreational, and intercollegiate. Coursework provides preparation for the American Sport Education Program (ASEP) Coaching Principles exam which is required by the Alabama High School Athletic Association (AHSAA).

KIN 450 - EXERCISE PHYSIOLOGY INTERNSHIP

Semester Hour: 1

Designed to provide on-site practical experience in a wellness/fitness program, physical therapy clinic, and/or a cardiac rehabilitation facility for Kinesiology-Exercise Science majors. Prerequisites: KIN 351.

KIN 451 - RESEARCH EXERCISE SCIENCE I

Semester Hours: 3

Initial capstone course (part of a two-course sequence) providing a broad and balanced background in various types of research methods and the development of a research proposal. Development of a research question, hypothesis, and research methodology. Application of computers will be used to search databases for relevant literature. Completion of an Institutional Review Board application is required. Prerequisites: KIN 351.

KIN 452 - RESEARCH EXERCISE SCIENCE II

Semester Hours: 3

Final capstone course (part of a two-course sequence) in which students must integrate and apply skills acquired throughout the program to complete a comprehensive research project. The student will complete the research project proposed in KIN 451 by recruiting research participants to collect data, writing the results and conclusions for a manuscript. Results will be prepared for publication and presented in a professional setting. Prerequisites: KIN 451 and PY 300 (with concurrency).

KIN 455 - MOTOR LEARNING

Semester Hours: 3

Study the principles and practices that affect the learning and development of motor skills; theories of motor learning, motor control, and development; lifespan motor development perspective related to performing motor and sport skills; and professional applications of motor learning and development in exercise science, athletic training, and physical education.

KIN 457 - MEASUREMNT & EVAL IN PHYS ACTV

Semester Hours: 3

Measure and evaluate learning or skill improvement based on accepted standards. Gain an understanding of the logic behind measurement instruments in order to better interpret and implement results and to achieve improved learning or physical fitness improvement. These methods of measurement and evaluation are important skills in health, physical education, and exercise science fields. Prerequisite: KIN 351 or permission of instructor.

KIN 460 - SPECIAL TOPICS KINESIOLOGY I

Semester Hours: 3

This course is intended to cover a variety of topics based on emerging topics in Kinesiology. Potential course offerings will include environmental exercise physiology, cardiovascular exercise physiology, childhood and adolescent exercise physiology, emerging topics in sport & fitness management, and expanded nutrition content. Prerequisites: KIN 327 or instructor permission.

KIN 461 - SPECIAL TOPICS KINESIOLOGY II

Semester Hours: 3

This course is developed to cover a variety of topics based on emerging topics in Kinesiology. Potential course offerings will include environmental exercise physiology, cardiovascular exercise physiology, childhood and adolescent exercise physiology, emerging topics in sport & fitness management, and expanded nutrition content. Course content will be offered in rotation. Prerequisites: KIN 327 or instructor permission.

KIN 462 - TEACHING PHYS ED IN ELEM SCH

Semester Hours: 3

Physical education teacher candidates will acquire the ability to understand, recognize, analyze, and demonstrate the range of teaching skills employed by successful physical educators in the preschool and elementary setting. Emphasis is placed on understanding the theoretical implications of different teaching skills and the contexts in which they are effective. Teacher candidates will design lessons that allow for maximum student participation while remaining aligned with Alabama Consent Standards. Field experience is required. Candidates will observe, participate in, and teach lessons in physical education classrooms. Prerequisite: Admission to the Teacher Education Program. Prerequisite: KIN 370.

KIN 463 - PSYCHOLOGICAL ASPECTS SPORT

Semester Hours: 3

Provides students with an introductory experience in sport, exercise, and fitness psychology based on the latest research and practice. Practical examples and case studies for individual and group sports are provided. The aim is to bridge science and practice to teach students the role of a sport and fitness psychologist. Prerequisites: KIN 327.

KIN 464 - HEALTH/PE FOR ELEM TEACHERS

Semester Hours: 2

The purpose of this course is to help the future elementary classroom teacher learn to appreciate, plan, organize, and conduct (if called upon to do so) a quality physical education program for children in grades pre-K-5. The pre-service teacher (PT) will be provided background knowledge about physical education content, skill themes and movement concepts, how to teach skill themes and movement concepts, and fitness concepts.

KIN 465 - TEACHING SECONDARY PE

Semester Hours: 3

Physical education teacher candidates will acquire the ability to understand, recognize, analyze, and demonstrate the range of teaching skills employed by successful educators in the secondary setting.

KIN 473 - SPORT & FITNESS MANAGEMENT

Semester Hours: 3

The course is an in-depth analysis of the relationship of sport and management. The study of sport includes sporting goods manufacturers; fitness centers; recreation departments; broadcasting; Little League teams; and high school, NCAA, and professional leagues. The study of management follows the four functions of management: planning, organizing, leading, and controlling. Prerequisite: KIN 265.

KIN 490 - EXERCISE SCIENCE INTERNSHIP

Semester Hours: 6

Designed to provide on-site practical experience in a wellness/fitness program, physical therapy clinic, and/or a cardiac rehabilitation facility for Kinesiology-Exercise Science majors. Prerequisites: KIN 351, senior standing.

SFM 265 - INTRO TO SPORT MGMT

Semester Hours: 3

This 3 hr course provides the student with knowledge of sport management and administration in both athletics and leisure-based sports. Topics include management concepts, roles and responsibilities, fiscal management, fund raising, legal issues, event scheduling and decision making.

SFM 381 - FACILITIES AND EQUIPMENT MGT

Semester Hours: 3

This course will provide theories for the design, development, operation, maintenance, and management of sport and fitness facilities. Prerequisite: KIN 260.

SFM 382 - SPORT LEADERSHIP

Semester Hours: 3

This course focuses on the role of leadership in general, with a specific application to a sport setting. We will focus on the numerous approaches to leadership that have been used, and emphasize illustrating and applying them to different aspects of sports. Prerequisites: KIN 260.

SFM 383 - SOCIOLOGY IN SPORT

Semester Hours: 3

This course is designed to study the role sport plays as a social institution. Additionally, we will identify what social institutions are most affected by sport and how these institutions are created. Topics will include the definition of sport as well as why and how it is studied, the effect of sport on society, sport as an institution, and sport and culture. Prerequisite: SOC 100.

SFM 384 - EVENT MANAGEMENT

Semester Hours: 3

This course investigates event management (in a planning and administration of sports events context) using a secondary objective model for planning, implementation management of events. This management of an event will include aspects such as event planning, event promotion, event sponsorship, recruiting & managing volunteers, event risk management, and event facilitation. The financial elements of sports event management will be Prerequisites: SFM 265 or KIN 265.

SFM 385 - WOMEN IN SPORT

Semester Hours: 3

The course examines the effects of Title IX, and other historical events that have influenced the inclusion of women in participating in various aspects of sports and the role of women in sports industry through a contemporary approach to sport leadership, management and media. Prerequisite: SOC 100.

SFM 442 - INTRO TO SPORT LAW

Semester Hours: 3

This course is designed to introduce students to the legal doctrines, major statutes, standards, and case law that establish legal responsibilities, rights, privileges and controls related to the field of exercise and sport sciences. Prerequisite: KIN 260.

SFM 443 - ST SPORTS & FITNESS MGMT

Semester Hours: 3

This course will address a variety of topics based on emerging trends in Sport Administration. Potential course offerings will include coach education, advanced legal issues, sport sociology, sport finance and accounting and globalization of sport. Course content will be offered in rotation as needed.

Prerequisite: KIN 260.

SFM 470 - SPORT MARKETING

Semester Hours: 3

Sport Marketing presents an overview of the various techniques and strategies used in meeting the wants and needs of consumers in the sport industry as well as the understanding how sport can be used to assist in the marketing of other companies and products. Areas to be addressed are the uniqueness of sport marketing in comparison with traditional marketing, an overview of the segments of the sport industry, the importance of market research and segmentation in identifying the right sport consumer, the issue of data-based marketing in researching the sport consumer, an overview of the marketing mix as individual units and the relationship between those units, and the development of sponsorship and endorsement packages.

Prerequisite: MKT 301.

SFM 471 - SPORT FINANCE

Semester Hours: 3

This course examines the financial tools that sports managers use to run their sport businesses. As such, it explores traditional and innovative methods of revenue acquisition and financial management in sports organizations, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Various other aspects of finance are discussed as they relate to sports organizations, including the time value of money, capital structuring, stocks and bonds, inventory management, and taxation. Prerequisite: FIN 301.

SFM 472 - ETHICS IN SPORT

Semester Hours: 3

This course prepares students to take a more critical view of sport, as well as reflect on their own personal ethical and competitive orientations. A central focus of the course is to view sport and competition from social justice and diversity perspectives. More specifically, sport is discussed from a socio-cultural context regarding how dominant and non-dominant groups (racial, ethnic, or socio-economic) have used sport to preserve or change their societal status. This includes such areas as racial identity and equity, gender identity and equity, cultural and ethnic stereotyping, sexual orientation, hazing and bullying, religion and sport, and individuals with disabilities. This course will also look at how to become an agent for change by using social capital to promote ethical equity and diversity. Prerequisite: KIN 265.or SFM 265.

SFM 473 - PROJECT MANAGEMENT

Semester Hours: 3

This course provides an introduction to project management using a guidelines approach to project sustainability and working-in-teams. The guidelines approach involves investigations of topics like project cycles; resources; deliverables; estimating costs; mitigating risk; revealing variances to costs/profits; and project scope. This class is the practice of turning ideas into reality. Junior Standing required.

SFM 491 - SPORT & FITNESS MGT INTERNSHIP

Semester Hours: 6

Sport & Fitness Management Internship will introduce and promote professionalism through a hands-on experience with a local company. The student will be guided by a faculty member and company representative to achieve a strong overall work experience pertaining to the student's interests.

Prerequisite: SFM 265 or KIN 265 and senior standing.

Kinesiology with Exercise Science Option, BS

- A Bachelor of Science in Kinesiology with a concentration in Exercise Science requires 121 credit hours.
- For transfer students, no more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- In order to graduate, 12 of the last 18 credit hours must be taken at UAH, and 25% of all coursework must be taken at UAH. A minimum of 30% of degree requirements must be taken in courses numbered 300 or above.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts* **12****Fine Arts** **3**

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature **3-6**

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts **3-6**

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU

AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	

AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Code	Title	Semester Hours
Area V Pre-Professional Courses		36
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101D	CHARGER SUCCESS - EDUCATION	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
BYS 215 & 215L	HUMAN ANATOMY & PHYSIOLOGY I and HUMAN ANAT & PHYS I LAB	4
BYS 216 & 216L	HUMAN ANATOMY & PHYSIOLOGY II and HUMAN ANAT & PHYS II LAB	4
BYS 320	MEDICAL TERMINOLOGY	3
CM 113	Intro to Rhetorical Communication	3
CH 101 & CH 105 or CH 121 & CH 125	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 110 or higher	FINITE MATHEMATICS	3
PH 101	GENERAL PHYSICS I	4
PY 101	GENERAL PSYCHOLOGY I	3
PY 300	PSYCHOLOGICAL STATISTICS	3
Kinesiology Major Core		12
KIN 240	HEALTH & WELLNESS CONCEPTS	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
KIN 455	MOTOR LEARNING	3
KIN 457	MEASUREMNT & EVAL IN PHYS ACTV	3
Exercise Science Courses		43
KIN 210	ATHLC INJURY PREVENTION & CARE	3
KIN 265	INTRO TO SPORT MGMT	3
KIN 290	EX TECHNIQUES & LEADERSHIP	3
KIN 300	NUTRITION FOR FITNESS & SPORT	3
KIN 315	STRENGTH TRNG & CONDITION	3
KIN 327	EXERCISE PHYSIOLOGY	3
KIN 328	EXERCISE PHYSIOLOGY	1
KIN 351	EXER TEST & PRECR HEALTHY POP	3
KIN 352	EXER TEST & PRECR SPECIAL POP	3
KIN 418	STRUCTURE/FUNCTIONAL KIN	3

KIN 451	RESEARCH EXERCISE SCIENCE I	3
KIN 452	RESEARCH EXERCISE SCIENCE II	3
KIN 463	PSYCHOLOGICAL ASPECTS SPORT	3
KIN 490	EXERCISE SCIENCE INTERNSHIP	6
Electives: Choose two of the following		6
KIN 361	TEACHING TEAM SPORTS	
KIN 362	TEACHING INDIVIDUAL ACTIVITIES	
KIN 370	ADAPTED PHYSICAL EDUCATION	
KIN 400	NUTRITION IN HEALTH & DISEASE	
KIN 419	EXERCISE & SPORT BIOMECHANICS	
KIN 427	ENVIRONMENTAL EXERCISE PHYSIOL	
KIN 445	PRINCIPLES OF COACHING	
KIN 460	SPECIAL TOPICS KINESIOLOGY I	
KIN 461	SPECIAL TOPICS KINESIOLOGY II	
Total Semester Hours		121

Sample four year plan for BS degree in Kinesiology: Exercise Science

Note: This is only an example and variations are possible.

Year 1

		Semester Hours
Fall		
FYE 101D	CHARGER SUCCESS - EDUCATION	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
EH 101	COLLEGE WRITING I	3
MA 110 or MA 112	FINITE MATHEMATICS or PRECALCULUS ALGEBRA	3
Fine Arts elective-see Requirements tab for options		3
Term Semester Hours:		14
Spring		
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
CM 113	Intro to Rhetorical Communication	3
EH 102	COLLEGE WRITING II	3
KIN 240	HEALTH WELLNESS CONCEPTS	3
History elective-see Requirements tab for options		3
Term Semester Hours:		16

Year 2

Fall		
BYS 215 & 215L	HUMAN ANATOMY & PHYSIOLOGY I and HUMAN ANAT & PHYS I LAB	4
PY 101	GENERAL PSYCHOLOGY I	3
KIN 210	ATHLC INJURY PREVENTION CARE	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
Literature elective-see Requirements tab for options		3
Term Semester Hours:		16
Spring		
BYS 216 & 216L	HUMAN ANATOMY & PHYSIOLOGY II and HUMAN ANAT & PHYS II LAB	4
KIN 265	INTRO TO SPORT MGMT	3
KIN 290	EX TECHNIQUES LEADERSHIP	3

2nd Humanities, Fine Art,
or Literature elective-see
Requirements tab for options 3

Social Behavioral Science
elective-see Requirements
tab for options 3

Term Semester Hours:		16
Year 3		
Fall		
KIN 327 & KIN 328	EXERCISE PHYSIOLOGY and EXERCISE PHYSIOLOGY	4
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	4
KIN 300	NUTRITION FOR FITNESS SPORT	3
KIN Elective-see Requirements tab for options		3
2nd History or Social & Behavioral Science-see Requirements tab for options		3

Term Semester Hours:		17
Spring		
BYS 320	MEDICAL TERMINOLOGY	3
PY 300	PSYCHOLOGICAL STATISTICS	3
KIN 315	STRENGTH TRNG CONDITION	3
KIN 351	EXER TEST PRECR HEALTHY POP	3
KIN 455	MOTOR LEARNING	3

Term Semester Hours:		15
Year 4		
Fall		
KIN 352	EXER TEST PRECR SPECIAL POP	3
KIN 418	STRUCTURE/FUNCTIONAL KIN	3
KIN 451	RESEARCH EXERCISE SCIENCE I	3
KIN 457	MEASUREMNT EVAL IN PHYS ACTV	3
KIN Elective-see Requirements tab for options		3

Term Semester Hours:		15
Spring		
KIN 452	RESEARCH EXERCISE SCIENCE II	3
KIN 463	PSYCHOLOGICAL ASPECTS SPORT	3
KIN 490	EXERCISE SCIENCE INTERNSHIP	6

Term Semester Hours:		12
Total Semester Hours:		121

Kinesiology with Physical Education (P-12) Licensure, BS

- A Bachelor of Science in Kinesiology with a Physical Education Teacher Education concentration requires 124 credit hours.
- For transfer students, no more than 62 credit hours from a two-year school can be applied toward a UAH degree.
- In order to graduate, 12 of the last 18 credit hours must be taken at UAH, and 25% of all coursework must be taken at UAH. A minimum of 30% of the total degree requirements must be taken in courses numbered 300 or above.
- For graduation application instructions, see here (p. 879).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	

or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	

PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12**

Mathematics

3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)

8

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences***12**

History

3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500

HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Sciences	
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Code	Title	Semester Hours
Area V Pre-Professional Courses		
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101D	CHARGER SUCCESS - EDUCATION	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
BYS 215 & 215L	HUMAN ANATOMY & PHYSIOLOGY I and HUMAN ANAT & PHYS I LAB	4
BYS 216 & 216L	HUMAN ANATOMY & PHYSIOLOGY II and HUMAN ANAT & PHYS II LAB	4
CH 101 & CH 105 or CH 121 & CH 125	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
CM 113	Intro to Rhetorical Communication	3
KIN 327 & KIN 328	EXERCISE PHYSIOLOGY and EXERCISE PHYSIOLOGY	4
MA 110 or higher	FINITE MATHEMATICS	3
PY 101	GENERAL PSYCHOLOGY I	3
PY 201	LIFE-SPAN DEVELOPMENT	3
Education Courses		28
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
ED 408	TCHG READING/CONTENT AREA	3
ED 499	P-12 INTERNSHIP	12
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
Kinesiology Core Courses		12
KIN 240	HEALTH & WELLNESS CONCEPTS	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
KIN 455	MOTOR LEARNING	3

KIN 457	MEASUREMNT & EVAL IN PHYS ACTV	3
PETE Specific Courses		24
KIN 340	SCHOOL AND COMMUNITY HEALTH	3
KIN 361	TEACHING TEAM SPORTS	3
KIN 362	TEACHING INDIVIDUAL ACTIVITIES	3
KIN 363	TEACHING FITNESS & WELLNESS	3
KIN 370	ADAPTED PHYSICAL EDUCATION	3
KIN 421	INST APP TO SPORT PEDAGOGY	3
KIN 462	TEACHING PHYS ED IN ELEM SCH	3
KIN 465	TEACHING SECONDARY PE	3
Choose 6 hours of KIN Electives 300+		6
Total Semester Hours		124

Sample four year plan for BS degree in Kinesiology: Physical Education Teacher Education (P-12)

Note: This is only an example and variations are possible.

Year 1

		Semester Hours
Fall		
FYE 101D	CHARGER SUCCESS - EDUCATION	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
EH 101	COLLEGE WRITING I	3
KIN 240	HEALTH WELLNESS CONCEPTS	3
MA 110 or MA 112	FINITE MATHEMATICS or PRECALCULUS ALGEBRA	3
Fine Arts elective-see Requirements tab for options		3
Term Semester Hours:		17
Spring		
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
CM 113	Intro to Rhetorical Communication	3
EH 102	COLLEGE WRITING II	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
History elective-see Requirements tab for options		3
Term Semester Hours:		16

Year 2

Fall		
BYS 215 & 215L	HUMAN ANATOMY & PHYSIOLOGY I and HUMAN ANAT & PHYS I LAB	4
KIN 362	TEACHING INDIVIDUAL ACTIVITIES	3
KIN 370	ADAPTED PHYSICAL EDUCATION	3
PY 101	GENERAL PSYCHOLOGY I	3
Literature elective-see Requirements tab for options		3
Term Semester Hours:		16
Spring		
BYS 216 & 216L	HUMAN ANATOMY & PHYSIOLOGY II and HUMAN ANAT & PHYS II LAB	4
KIN 363	TEACHING FITNESS WELLNESS	3
PY 201	LIFE-SPAN DEVELOPMENT	3

2nd Humanities, Fine Art, or Literature-see Requirements tab for options		3
2nd History or Social & Behavioral Science-see Requirements tab for options		3
Term Semester Hours:		16
Year 3		
Fall		
ED 301	INTRO TO EDUCATION PRACTICUM	1
ED 307	MULTICULTURAL FND EDUCATION	3
ED 308	EDUCATIONAL PSYCHOLOGY	3
EDC 301	TCHG THE EXCEPTIONAL CHILD	3
EDC 311	INSTR STRATEGIES INCLUSIVE CLR	3
KIN 300+ level elective		3
Term Semester Hours:		16
Spring		
KIN 327	EXERCISE PHYSIOLOGY	4
& KIN 328	and EXERCISE PHYSIOLOGY	
KIN 340	SCHOOL AND COMMUNITY HEALTH	3
KIN 361	TEACHING TEAM SPORTS	3
KIN 455	MOTOR LEARNING	3
KIN 462	TEACHING PHYS ED IN ELEM SCH	3
Term Semester Hours:		16
Year 4		
Fall		
KIN 421	INST APP TO SPORT PEDAGOGY	3
KIN 465	TEACHING SECONDARY PE	3
KIN 457	MEASUREMNT EVAL IN PHYS ACTV	3
ED 408	TCHG READING/CONTENT AREA	3
KIN 300+ level elective		3
Term Semester Hours:		15
Spring		
ED 499	P-12 INTERNSHIP	12
Term Semester Hours:		12
Total Semester Hours:		124

Sport & Fitness Management, BS

- A Bachelor of Science in Sport & Fitness Management requires 121 credit hours.
- For transfer students, no more than 60 credit hours from a two-year school can be applied toward a UAH degree.
- In order to graduate, 12 of the last 18 credit hours must be taken at UAH, and 25% of all coursework must be taken at UAH. A minimum of 30% of the total degree requirements must be taken in courses numbered 300 or above.
- For graduation application instructions, see here (<https://catalog.uah.edu/undergrad/policies-procedures/application-graduation/>).

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12

Fine Arts

3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Literature

3-6

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts

3-6

CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	

ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Code	Title	Semester Hours
Area V Required Multi-Discipline/Other		16
Courses in this area may also fulfill Charger Foundations requirements.		
FYE 101D	CHARGER SUCCESS - EDUCATION	1
CM 113	Intro to Rhetorical Communication	3
CM 220	INTRO PUBLIC RELATIONS	3
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
ECN 406	SPORTS ECONOMICS	3
SOC 100	INTRO TO SOCIOLOGY	3
Business Admin Minor		22
ACC 210	ACCOUNTING FOR BUSINESS	4
ECN 142	PRINC OF MACROECONOMICS	3
ECN 143	PRINC OF MICROECONOMICS	3
FIN 301	PRINCIPLES OF FINANCE	3
MSC 287	BUSINESS STATISTICS I	3
MGT 301	MANAGING ORGANIZATIONS	3
MKT 301	PRINCIPLES OF MARKETING	3
Required SFM/KIN Courses		39
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
SFM 265	INTRO TO SPORT MGMT	3
SFM 381	FACILITIES AND EQUIPMENT MGT	3
SFM 382	SPORT LEADERSHIP	3
SFM 383	SOCIOLOGY IN SPORT	3
SFM 384	EVENT MANAGEMENT	3
SFM 385	WOMEN IN SPORT	3
SFM 442	INTRO TO SPORT LAW	3
SFM 470	SPORT MARKETING	3
SFM 472	ETHICS IN SPORT	3
SFM 473	PROJECT MANAGEMENT	3
SFM 491	SPORT & FITNESS MGT INTERNSHIP	6
Electives: Choose 12 hrs from this list:		
Choose one KIN/SFM course		
KIN 361	TEACHING TEAM SPORTS	
KIN 362	TEACHING INDIVIDUAL ACTIVITIES	
KIN 445	PRINCIPLES OF COACHING	
SFM 443	ST SPORTS & FITNESS MGMT	
Choose one CM course		

CM 205	INTRO TO JOURNALISM
CM 310	PERSUASION
CM 313	BUSINESS & PROFESSIONAL COMM
CM 331	COMMUNICATION THEORY
CM 405	ADVANCED MEDIA WRITING
CM 430	MASS MEDIA IN AMERICA
CM 444	ADVERTISING

6 hours as approved by advisor

Total Credit Hours	121
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Sample four year plan for BS degree in Sport and Fitness Management

Note: This is only an example and variations are possible.

Year 1

Fall		Semester Hours
FYE 101D	CHARGER SUCCESS - EDUCATION	1
CM 113	Intro to Rhetorical Communication	3
EH 101	COLLEGE WRITING I	3
SOC 100	INTRO TO SOCIOLOGY	3
Math elective-see Requirements tab for options		3
Fine Arts elective-see Requirements tab for options		3
Term Semester Hours:		16

Spring

ECN 142	PRINC OF MACROECONOMICS	3
EH 102	COLLEGE WRITING II	3
KIN 260	FOUNDATIONS OF KINESIOLOGY	3
History elective-see Requirements tab for options		3
Science elective-see Requirements tab for options		4
Term Semester Hours:		16

Year 2

Fall		
CM 220	INTRO PUBLIC RELATIONS	3
ECN 143	PRINC OF MICROECONOMICS	3
SFM 265	INTRO TO SPORT MGMT	3
Literature elective-see Requirements tab for options		3
Science elective-see Requirements tab for options		4
Term Semester Hours:		16

Spring

ACC 210	ACCOUNTING FOR BUSINESS	4
CM 231	FOUNDATIONS OF HUMAN COMMUNICA	3
SFM 382	SPORT LEADERSHIP	3
2nd Literature elective-see Requirements tab for options		3
2nd History or Social Behavior Science elective- see Requirements tab for options		3
Term Semester Hours:		16

Year 3**Fall**

MGT 301	MANAGING ORGANIZATIONS	3
MSC 287	BUSINESS STATISTICS I	3
SFM 381	FACILITIES AND EQUIPMENT MGT	3
SFM 442	INTRO TO SPORT LAW	3
CM elective-see Requirements tab for options		3

Term Semester Hours: **15**

Spring

FIN 301	PRINCIPLES OF FINANCE	3
MKT 301	PRINCIPLES OF MARKETING	3
SFM 383	SOCIOLOGY IN SPORT	3
SFM 384	EVENT MANAGEMENT	3
SFM 385	WOMEN IN SPORT	3

Term Semester Hours: **15**

Year 4**Fall**

ECN 406	SPORTS ECONOMICS	3
SFM 470	SPORT MARKETING	3
SFM 473	PROJECT MANAGEMENT	3
KIN Elective-see Requirements tab for options		3
Elective-approved by advisor		3

Term Semester Hours: **15**

Spring

SFM 472	ETHICS IN SPORT	3
SFM 491	SPORT FITNESS MGT INTERNSHIP	6
Elective-approved by advisor		3

Term Semester Hours: **12**

Total Semester Hours: **121**

Coaching, Minor

This program is designed for those students who are interested in sport coaching, and is open to individuals from any department on campus. The purpose of the program is to provide students with a general framework of knowledge and the skills to be effective coaches in school, recreational, and adult league settings. The program blends coursework in the fields of Sport Pedagogy, Exercise Science, and Sport Management to give students a well-rounded, cross-disciplined approach to athletic coaching. It consists of 6 classes for 18 hours of course work:

Code	Title	Semester Hours
KIN 361 or KIN 362	TEACHING TEAM SPORTS TEACHING INDIVIDUAL ACTIVITIES	3
KIN 445	PRINCIPLES OF COACHING	3
KIN 463	PSYCHOLOGICAL ASPECTS SPORT	3
SFM 381	FACILITIES AND EQUIPMENT MGT	3
SFM 382	SPORT LEADERSHIP	3
SFM 472	ETHICS IN SPORT	3
Total Semester Hours		18

Health and Nutrition, Minor

The Health and Nutrition minor is open to all students looking to expand their knowledge of health and wellness. The goals of the program are to increase nutritional knowledge, expose individuals to the benefits of exercise, and help destigmatize mental health. Increased knowledge in all areas is beneficial to all students regardless of their major. The program consists of 7 courses for 21 hrs of course work.

Code	Title	Semester Hours
KIN 200	CONTEMPORARY NUTRITION	3
KIN 240	HEALTH & WELLNESS CONCEPTS	3
KIN 290	EX TECHNIQUES & LEADERSHIP	3
KIN 300	NUTRITION FOR FITNESS & SPORT	3
KIN 400	NUTRITION IN HEALTH & DISEASE	3
PY 333	PY OF ADJUSTMENT & ADAPTATION	3
PY 437	PSYCHOBIOLOGY STRESS & ILLNESS	3
Total Hours ¹		18-21

¹ PY 437 is only offered once, every other year. If the course is not offered when the student needs it, they may earn the minor without that course, for a total of 18 hours; however, if the course is offered during the time frame that the student needs it, they will be required to take it, thus completing a full 21 hours.

College of Engineering

102 Engineering Building
Telephone: 256.824.6474
Email: engineering@uah.edu

Dean: Shankar Mahalingam, PhD
Associate Dean for Graduate Education and Research: Michael D. Anderson, PhD
Associate Dean for Undergraduate Education: Jennifer M. English, PhD

Mission & Vision

The *mission* of the College of Engineering is to advance knowledge through research and education in core engineering disciplines. The College promotes ethical, innovative, and multidisciplinary approaches in an environment of collaboration with local and global partners to address society's technological problems.

The *vision* of the College of Engineering is to attain national and international recognition through innovative, multi-disciplinary research and education, while promoting professional integrity, and inspiring students to become leaders in their profession.

Degree Programs

The College of Engineering offers eight undergraduate programs built around a core consisting of courses in mathematics, the physical sciences, liberal arts, and engineering. Students may pursue one of the following engineering degree programs that leads to a Bachelor of Science degree:

- Aerospace Engineering (BSAE) (p. 506)
- Chemical Engineering (BSCheE) (p. 442)
- Civil Engineering (BSCE) (p. 452)
- Computer Engineering (BSCpE) (p. 478)
- Cybersecurity Engineering (BSCBSY) (p. 481)
- Electrical Engineering (BSEE) (p. 485)
- Industrial and Systems Engineering (BSISE) (p. 497)
- Mechanical Engineering (BSME) (p. 509)

History & Objectives

UAH has been an independent and autonomous campus since 1968 with the first engineering degrees awarded in Electrical Engineering. The College of Engineering was established as an independent college in 1981 and is now the largest academic college at UAH. Over 10,000 undergraduate and graduate degrees have been awarded in the College of Engineering's history. Close proximity to the Marshall Space Flight Center, the U.S. Army Research, Development & Engineering Command and Redstone Arsenal, and much of Alabama's fastest growing technological industry gives the

College of Engineering a special character that leads to outstanding educational opportunities for its students. This special setting, combined with high quality research-active faculty, affords maximum growth potential for students interested in pursuing a career in engineering.

The goals of the College of Engineering are to:

- Enhance the national and international recognition of the research activities of the College to advance towards the top 50 engineering colleges/schools
- Be recognized nationally for graduating highly sought after professionals with excellent engineering skills, integrity, and a strong work ethic
- Improve the quality, diversity, and number of students at all levels with an emphasis on increasing full time student enrollment
- Create an engaging educational environment fostering a highly diverse group focusing on nurturing innovation and leadership through core engineering and multidisciplinary research and education

Working with students, our faculty conduct both fundamental and applied research in disciplinary and cross disciplinary fields, developing solutions to many grand challenges. The College of Engineering is strongly committed to the advising of both undergraduate and graduate engineering students.

Undergraduate Engineering Advising

The College of Engineering is committed to student success, which starts with effective and supportive academic advising. Engineering students are advised by a team of professional advisors from the Center for Undergraduate Engineering Education (CUE²) which is located in Room 157 of the Engineering Building. The CUE² advisors will work with you throughout your entire undergraduate career to define and implement sound educational plans that are consistent with your personal goals and career plans. Our advisors are also available to answer questions about degree requirements as well as academic policies and procedures. They can also suggest enrichment opportunities or make referrals to academic and other campus support resources. They're here to offer guidance and support.

More information about CUE² advisors as well as a host of advising and curricular information for UAH engineering students may be found on the Undergraduate Engineering website (<http://www.uah.edu/eng/departments/undergraduate-engineering/>). Prospective students may email the CUE² office at engineering@uah.edu.

Admissions

Freshman Students

Each applicant is evaluated based on individual merit and demonstrated success in a rigorous academic environment. High school coursework, grade point average, and ACT/SAT scores are weighed heavily; however, these criteria do not constitute the entire foundation for an admission decision. An applicant with a grade point average of 2.9 and a composite score of 20 on the ACT or equivalent SAT, for example, is considered a strong candidate for admission.

Transfer Students

Students may transfer to the UAH College of Engineering from another two-year or four-year institution. Students must have a C grade point average (2.0 on a 4.0 scale) for all coursework previously attempted. Students must also provide an official transcript sent directly to the UAH Admissions office.

Transfer credit will be applied as appropriate to the specific engineering program and at the discretion of the College of Engineering. Students must earn a C in any transferred course that serves as a prerequisite to a course required for the engineering degree program.

Students transferring from a two-year, regionally accredited school may, at most, transfer 50% of the total number of hours (maximum of 64 hours) required for an undergraduate engineering degree. UAH follows the Alabama Articulation and General Studies Committee (<http://stars.troy.edu/>) agreement for students transferring credit from a State of Alabama community college. Transfer credit from other two-year institutions will be evaluated by the UAH Registrar's Office and the College of Engineering.

Students transferring from an ABET-accredited four-year institution may transfer no more than 70% of course work towards an engineering degree program. Students must also complete 12 of their last 18 semester hours towards their degree requirements at UAH. More information and requirements may be found at the UAH Admission website (<http://www.uah.edu/admissions/>).

Engineering Common First Year

The Engineering Common First Year is designed to motivate and engage engineering students. All Engineering students will take a common set of courses including EGR 101 - Introduction to Computing for Engineers and FYE 101E Charger Success for Engineers. The goals of the Common First Year program are to:

- Introduce students to UAH, the College of Engineering, and the fields of engineering
- Give students flexibility to choose a major at the end of the first year
- Keep students in a loosely defined cohort for the first year
- Emphasize the importance of computing for engineers
- Ensure that students have the skills necessary to be successful in second year engineering courses

Laptop Requirements

All engineering undergraduate students are required to have a laptop computer that meets certain requirements depending on their major. For some courses, the students will be required to use the laptop during class time. The requirements may be found here (<https://www.uah.edu/eng/departments/undergraduate-engineering/>).

Engineering Academic Progress Policy

It is important for engineering students to make good academic progress. Repeating courses increases the time and cost to earn a degree and can negatively impact a student's grade point average. The College of Engineering defines good academic progress as completing 66% or more of the courses for which a student is registered. Completion is defined as earning the minimum grade necessary to have the course satisfy a degree requirement. Withdrawing from course and receiving a W on the transcript is not considered completion.

Engineering students will be limited to three attempts of any math, science or engineering course that is required for the degree. If a student is not successful at completing a course on the third attempt (including Ws), the student will not be able to continue in any engineering degree program for which that course is required. Exceptions to this policy will be considered for unusual or emergency situations.

Chemical and Materials Engineering

117 Engineering Building

Telephone: 256.824.6810

Email: anu.subramanian@uah.edu

<http://www.uah.edu/eng/departments/cme/> (<http://www.uah.edu/eng/departments/cme/>)

Department Chair: Anuradha Subramanian, PhD

Chemical Engineering Program

Chemical engineering deals with any situation in which changes in the chemical composition or the physical state of matter (or both) are involved and, hence, finds unusually wide application. Heat and mass transfer, fluid mechanics, thermodynamics, chemical reaction kinetics, and process control constitute the heart of chemical engineering. Chemical engineers work in many diverse fields ranging from production of many basic chemical products required by today's industrial society to research on major technical and social problems, including energy resources development, space applications, pollution control, and biotechnology.

Students pursuing a UAH Chemical Engineering bachelor's degree may choose one of two concentrations:

- Biotechnology
- Materials

Program Educational Objectives

The program educational objectives (PEOS) are designed to prepare graduates to be successful in their professional careers and for them to have the skills needed to contribute to the economic advancement of their firms, their local region, the state and the nation. The PEOS are:

- Graduates can engage in critical thinking for process design and innovation using core competencies in chemical engineering to advance in successful career paths.
- Graduates can evaluate economic impacts while respecting civic, ethical, environmental, safety, and regulatory issues for the stewardship, sustainability, and betterment of mankind.
- Graduates are committed to continuous improvement, life-long learning, and integrity in fulfilling private or public roles that require communication, peer mentorship, and team leadership.

Majors in Chemical Engineering

- Chemical Engineering, BSChE - Biotechnology Concentration (p. 444)
- Chemical Engineering, BSChE - Materials Concentration (p. 448)

CHE 201 - INTRO CHEMICAL ENGR PROCESS

Semester Hours: 2

Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets. Analytical methods for solving problems related to chemical process measurements, properties of single compounds, properties of mixtures, stoichiometry. Application of the principle of conservation of mass in the analysis of steady-state non-reacting chemical processes. Prerequisites with concurrency: EGR 101, CH 123 and CH 126.

CHE 244 - INTRO TO CHEM ENGRG SYSTEMS

Semester Hours: 3

Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets. Application of the principle of conservation of mass and energy in the analysis of steady-state chemical processes. Topics in physical, chemical, and thermal property estimation. Prerequisites: PH 111, CH 123, CHE 201 Prerequisite with concurrency: MA 201.

CHE 294 - NATURE & PROPERTIES OF MATLS

Semester Hours: 3

Introduction to the fundamental nature and properties of materials including bonding, composition, and phase diagrams. Composite materials and aspects of materials processing, including diffusion, nucleation, and transformation diagrams, will be presented. Prerequisites: CH 121 and PH 111.

CHE 295 - NATURE & PROPERTIES MATLS LAB

Semester Hour: 1

Experiments include characterizing material structures, testing mechanical properties and mapping phase diagram boundaries. Emphasis on numerical and statistical analysis of the data. Written reports are required, and elements of materials design are presented. Corequisite: CHE 294.

CHE 342 - TRANSPORT PHENOMENA

Semester Hours: 3

Fundamental aspects of heat and mass transfer and the use of these basic principles in solving problems in transport operations. Heat transfer with phase change. Diffusive and convective mass transfer with applications. Prerequisites: CH 351, CHE 244 Prerequisites with concurrency: MAE 310.

CHE 344 - CHEM ENGR THERMODYNAMICS

Semester Hours: 3

Thermodynamics of phase equilibria, chemical reactions and thermodynamic analysis of chemical processes, with emphasis on topics of special interest to chemical engineers. Prerequisites: CHE 244 and CH 351.

CHE 347 - QUANTITATIVE MODELING FOR CHE

Semester Hours: 3

Modeling and analysis of physical phenomena that arise in chemical engineering and an introduction to computer-aided design. Prerequisites: CHE 244, and MA 238.

CHE 359 - INDEPENDENT STUDIES IN CHE

Semester Hours: 1-3

Independent studies or research on a topic that requires the application of basic principles in chemical engineering. A written report, analytical or experimental analysis, and oral presentation will be required. Prerequisites: CHE 244 and CHE 294.

CHE 439 - UNIT OPERATIONS I

Semester Hours: 2

Experimental studies cover fluid mechanics and heat transfer in unit operations. Theoretical classes provide an introduction to engineering economy as well as standard laboratory practice, probability and statistical data analysis. Emphasis placed on written and oral laboratory report presentation techniques. Prerequisites: CHE 295 Prerequisite with concurrency: CHE 441.

CHE 440 - UNIT OPERATIONS II

Semester Hours: 2

Experimental studies covering reaction kinetics, mass separation, biotechnology, and special material properties. Applications of laboratory practices, probability and statistical data analysis, and ethics in professional practice. Emphasis placed on technical communications. Prerequisites: CHE 439, CHE 441 Prerequisite with concurrency: CHE 443.

CHE 441 - CHEM KINETICS & REACTOR DESIGN

Semester Hours: 3

Fundamental principles of chemical kinetics and chemical reactor engineering along with the design of both thermal and catalytic reactors. (Same as CHE 541) Prerequisites: CHE 344 and CHE 347.

CHE 443 - TRANSPORT PROCESSES

Semester Hours: 3

Applications of heat and mass transfer phenomena. Fins and heat exchangers, single-stage separation (vapor-liquid, liquid-liquid, gas/liquid-solid) and cascade separation (extraction, absorption/stripping, distillation, membranes). Prerequisites: CHE 342, CHE 344, CHE 347 and MAE 310.

CHE 445 - CHEMICAL PROCESS CONTROL

Semester Hours: 3

Fundamental principles of chemical process control; control system design for chemical processes. Prerequisite: CHE 441 and CHE 446.

CHE 446 - ANAL & DESIGN TRANSPORT EQUIP

Semester Hours: 3

Theory of transport phenomena from a unified approach to momentum, heat and mass transfer. Application of theory to the design of various transport equipment. Prerequisites: CHE 342 Prerequisite with concurrency: CHE 443.

CHE 448 - CHEMICAL ENGINEERING DESIGN

Semester Hours: 3

Capstone design course. Design of chemical engineering components, concluding with an overall team design effort using modern CAD techniques includes preliminary design, simulation, and economic evaluation of a chemical production flow sheet, and a study of ethical issues. Prerequisites: CHE 441, CHE 443, CHE 445, CHE 446.

CHE 459 - ADVD INDEPENDENT STUD CHE

Semester Hours: 1-3

Independent studies or research on a topic that requires a solid background in the foundations of chemical engineering. A written report, analytical or experimental analysis, and oral presentation will be required. Prerequisites: CHE 347 and either CH 363 or CH 440.

CHE 460 - INTRO TO BIOPROCESS ENGRG

Semester Hours: 3

Application of engineering principles to analysis of and development and design of processes using biological catalysts including enzymes, plant and animal cells, and genetically engineered cells. Other topics include fermentation and biological mass transport processes. (Same as CHE 560). Prerequisite: CH 361.

CHE 461 - BIOSEPARATIONS

Semester Hours: 3

Characteristics of separation processes used in biotechnology industries including removal of insolubles, isolation and purification of thermally sensitive products, and preparation for customer use. Applications for biological separations, recombinant DNA techniques, and protein engineering. (Same as CHE 561). Prerequisite: CHE 460.

CHE 485 - PROCESS SAFETY & TOXICOLOGY

Semester Hours: 3

Fundamentals of process safety and aspects of toxicology. Requires the application of chemical engineering concepts to review and analyze case studies to learn from industrial accidents. Introduces regulatory and design concepts. Prerequisite: CHE 448.

CHE 494 - APPLIED MATERIALS ENGINEERING

Semester Hours: 3

Synthesis and processing methods of materials. Selection and use of materials performance factors for design of structural and functional components. Use of computational methods in solving open-ended design problems using nature and properties of materials will be emphasized. (Same as CHE 594) Prerequisites: CHE 294 and CHE 344.

CHE 495 - POLYMER ENGINEERING

Semester Hours: 3

Engineering principles of polymers and their role in manufacturing processes. Aspects of polymer phenomena and their relationship to processing of structural and functional components. (Same as CHE 595) Prerequisites: CH 351 and CH 440.

Chemical Engineering, BSChE - Biotechnology Concentration

To obtain a Bachelor of Science degree in Chemical Engineering (biotechnology option), students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	

Code	Title	Semester Hours
Additional Basic Mathematics and Sciences Semester Hours		
MA 172	CALCULUS B	4

MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 332	ORGANIC CHEMISTRY II	3
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Chemical Engineering		
CHE 201	INTRO CHEMICAL ENGR PROCESS	2
CHE 244	INTRO TO CHEM ENGRG SYSTEMS	3
MAE 271	STATICS	3
CHE 294	NATURE & PROPERTIES OF MATLS	3
CHE 295	NATURE & PROPERTIES MATLS LAB	1
BYS 311	INTRO MOLECULAR UNDS BIO SYST	3
CH 351	PHYS CHEM IN PRACTICE	3
CHE 342	TRANSPORT PHENOMENA	3
CHE 344	CHEM ENGR THERMODYNAMICS	3
MAE 310	FLUID MECHANICS I	3
CHE 347	QUANTITATIVE MODELING FOR CHE	3
CHE 439	UNIT OPERATIONS I	2
CHE 440	UNIT OPERATIONS II	2
CHE 441	CHEM KINETICS & REACTOR DESIGN	3
CHE 443	TRANSPORT PROCESSES	3
CHE 445	CHEMICAL PROCESS CONTROL	3
CHE 446	ANAL & DESIGN TRANSPORT EQUIP	3
CHE 448	CHEMICAL ENGINEERING DESIGN	3
CHE 485	PROCESS SAFETY & TOXICOLOGY	3
Biotechnology Concentration		
CH 361	GENERAL BIOCHEMISTRY	3
CHE 460	INTRO TO BIOPROCESS ENGRG	3
CHE 461	BIOSEPARATIONS	3
Technical Elective		
Select one course: EE 213, ISE 390, CE 456 or course approved by CHE Department		3
Total Semester Hours		130

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3

CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
CH 123	GENERAL CHEMISTRY II	3
CH 126	GENERAL CHEMISTRY LAB II	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		18
Year 2		
Fall		
MA 201	CALCULUS C	4
CH 331	ORGANIC CHEMISTRY I	3
CH 335	ORGANIC CHEMISTRY LAB I	1
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
EGR 299	ENGINEERING MENTORING I	0
CHE 201	INTRO CHEMICAL ENGR PROCESS	2
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
CH 332	ORGANIC CHEMISTRY II	3
CH 351	PHYS CHEM IN PRACTICE	3
BYS 311	INTRO MOLECULAR UNDSST BIO SYST	3
CHE 244	INTRO TO CHEM ENGRG SYSTEMS	3
Term Semester Hours:		15
Year 3		
Fall		
EGR 399	ENGINEERING MENTORING II	0
MAE 271	STATICS	3
CHE 294	NATURE PROPERTIES OF MATLS	3
CHE 295	NATURE PROPERTIES MATLS LAB	1
CHE 344	CHEM ENGR THERMODYNAMICS	3
CHE 347	QUANTITATIVE MODELING FOR CHE	3
CH 361	GENERAL BIOCHEMISTRY	3
Term Semester Hours:		16
Spring		
CHE 342	TRANSPORT PHENOMENA	3
MAE 310	FLUID MECHANICS I	3
CHE 439	UNIT OPERATIONS I	2
CHE 441	CHEM KINETICS REACTOR DESIGN	3
Technical Elective (EE 213, ISE 390, CE 456 or approved by CHE Dept)		3

HSBS/HFA See Charger 3
 Foundations Areas II and IV

Term Semester Hours:		17
Year 4		
Fall		
CHE 440	UNIT OPERATIONS II	2
CHE 443	TRANSPORT PROCESSES	3
CHE 446	ANAL DESIGN TRANSPORT EQUIP	3
CHE 460	INTRO TO BIOPROCESS ENGRG	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17
Spring		
CHE 445	CHEMICAL PROCESS CONTROL	3
CHE 448	CHEMICAL ENGINEERING DESIGN	3
CHE 485	PROCESS SAFETY TOXICOLOGY	3
CHE 461	BIOSEPARATIONS	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		15
Total Semester Hours:		130

Chemical Engineering, BSChE - Materials Concentration

To obtain a Bachelor of Science degree in Chemical Engineering (materials concentration), students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	

PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Basic Sciences Semester Hours		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
CH 332	ORGANIC CHEMISTRY II	3
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Chemical Engineering		
CHE 201	INTRO CHEMICAL ENGR PROCESS	2
CHE 244	INTRO TO CHEM ENGRG SYSTEMS	3
MAE 271	STATICS	3
CHE 294	NATURE & PROPERTIES OF MATLS	3

CHE 295	NATURE & PROPERTIES MATLS LAB	1
BYS 311	INTRO MOLECULAR UNDST BIO SYST	3
CHE 342	TRANSPORT PHENOMENA	3
CH 351	PHYS CHEM IN PRACTICE	3
CHE 344	CHEM ENGR THERMODYNAMICS	3
MAE 310	FLUID MECHANICS I	3
CHE 347	QUANTITATIVE MODELING FOR CHE	3
CHE 439	UNIT OPERATIONS I	2
CHE 440	UNIT OPERATIONS II	2
CHE 441	CHEM KINETICS & REACTOR DESIGN	3
CHE 443	TRANSPORT PROCESSES	3
CHE 445	CHEMICAL PROCESS CONTROL	3
CHE 446	ANAL & DESIGN TRANSPORT EQUIP	3
CHE 448	CHEMICAL ENGINEERING DESIGN	3
CHE 485	PROCESS SAFETY & TOXICOLOGY	3
Materials Concentration		
CH 440	POLYMER SYNTHESIS & CHARACTERI	3
CHE 494	APPLIED MATERIALS ENGINEERING	3
CHE 495	POLYMER ENGINEERING	3
Technical Elective		
Select one course: EE 213, ISE 390, CE 456 or course approved by CHE Department		3
Total Semester Hours		130

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EH 101	COLLEGE WRITING I	3
EGR 101	INTRO COMPUTING ENGINEERS	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15

Spring

MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
CH 123	GENERAL CHEMISTRY II	3
CH 126	GENERAL CHEMISTRY LAB II	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		18

Year 2

Fall		
MA 201	CALCULUS C	4

CH 331	ORGANIC CHEMISTRY I	3
CH 335	ORGANIC CHEMISTRY LAB I	1
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
CHE 201	INTRO CHEMICAL ENGR PROCESS	2
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
CH 332	ORGANIC CHEMISTRY II	3
CH 351	PHYS CHEM IN PRACTICE	3
BYS 311	INTRO MOLECULAR UNDSST BIO SYST	3
CHE 244	INTRO TO CHEM ENGRG SYSTEMS	3
Term Semester Hours:		15
Year 3		
Fall		
EGR 399	ENGINEERING MENTORING II	0
MAE 271	STATICS	3
CHE 294	NATURE PROPERTIES OF MATLS	3
CHE 295	NATURE PROPERTIES MATLS LAB	1
CHE 344	CHEM ENGR THERMODYNAMICS	3
CHE 347	QUANTITATIVE MODELING FOR CHE	3
CH 440	POLYMER SYNTHESIS CHARACTERI	3
Term Semester Hours:		16
Spring		
CHE 342	TRANSPORT PHENOMENA	3
MAE 310	FLUID MECHANICS I	3
CHE 439	UNIT OPERATIONS I	2
CHE 441	CHEM KINETICS REACTOR DESIGN	3
Technical Elective (EE 213, ISE 390, CE 449 or course approved by CHE Dept)		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Year 4		
Fall		
CHE 440	UNIT OPERATIONS II	2
CHE 443	TRANSPORT PROCESSES	3
CHE 446	ANAL DESIGN TRANSPORT EQUIP	3
CHE 495	POLYMER ENGINEERING	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Spring		
CHE 445	CHEMICAL PROCESS CONTROL	3
CHE 448	CHEMICAL ENGINEERING DESIGN	3
CHE 485	PROCESS SAFETY TOXICOLOGY	3
CHE 494	APPLIED MATERIALS ENGINEERING	3

HSBS/HFA See Charger
Foundations Areas II and IV

3

Term Semester Hours:

15

Total Semester Hours:

130

Civil and Environmental Engineering

S201 Technology Hall

Telephone: 256.824.6854

Email: andersmd@uah.edu

URL: <http://www.uah.edu/eng/departments/cee> (<http://www.uah.edu/eng/departments/cee/>)

Chair: Michael Anderson, PhD

Civil Engineering Program

Civil engineers are involved in many fields including structural engineering, transportation, environmental systems, and geotechnical analysis. The modern civil engineer uses traditional design and analysis methods as well as advanced experimental and computational techniques. At UAH, students are exposed to all of these areas of civil engineering and introduced to techniques that will make them competent practicing professional engineers. The civil engineering curriculum consists of general engineering classes (required of all engineering students), the civil engineering core classes, and the civil engineering concentration selected. The concentration requirements may be met by completing either a broad civil engineering curriculum or by specializing in structural, transportation, or environmental engineering.

The department of Civil Engineering offers the Bachelor of Science in Civil Engineering with four possible concentrations: Structural, Environmental, Transportation, and General.

The structural engineering concentration provides students with a strong background in many aspects of structural analysis, foundations, reinforced concrete, steel design, bridge design, and advanced structural design. Students may take additional courses in such areas as advanced concrete design, design of wood structures, wind and seismic loads, advanced cementitious and composite materials, experimental mechanics, and finite element methods.

The environmental engineering concentration provides students with a strong foundation in environmental management and remediation. Within the framework of the program, students are introduced to environmental engineering aspects such as water quality, atmospheric pollution, hydrology, environmental systems, and environmental sampling.

The transportation engineering concentration provides students with the skills necessary to tackle tomorrow's data management and transportation issues. Students are introduced to various topics, including transportation modeling and simulation, application of GIS to transportation issues, use of traffic crash data, and urban transportation planning.

Mission

The mission of the Civil Engineering Program is to educate students with the fundamental knowledge and analytical skills necessary for successful careers in civil and environmental engineering. Through rigorous scholarship, innovative instruction and service, we advance knowledge to improve our global community.

Program Educational Objectives

Within a few years of graduation, Civil Engineering graduates will have:

- Developed creative solutions in their profession through application of civil engineering knowledge and skills,
- Attained successful careers and recognition as emerging leaders in industry and in the civil engineering community, and
- Impacted the global community by addressing societal needs through a combination of professional practice, research, and/or service.

Undergraduate Major in Civil Engineering

- Civil Engineering, BSCE - General Concentration (p. 456)
- Civil Engineering, BSCE - Environmental Concentration (p. 459)
- Civil Engineering, BSCE - Structural Concentration (p. 463)
- Civil Engineering, BSCE - Transportation Concentration (p. 467)

CE 211 - CIVIL ENGINEERING GRAPHICS

Semester Hours: 2

Fundamental concepts in computer-aided graphics as they apply to civil engineering. Topics include lettering, sketching, manipulation of elements, rotation of views and input of data. Students will gain engineering practice through AutoCad laboratory exercises. Prerequisite: EGR 101 with minimum grade of C-.

CE 271 - STATICS

Semester Hours: 3

Topics include: forces, resultant forces, moments, couples, equivalent forces systems, equilibrium, distributed loads, two force members, trusses, centroids, moments of inertia, shear and bending moment diagrams, static and kinematic friction. (Same as MAE 271). Prerequisite: EGR 101, PH 111 Prerequisite with concurrency: MA 201.

CE 272 - DYNAMICS

Semester Hours: 3

Kinematics and kinetics of a particle and systems of particles with applications to central force motion, impact, relative motion, vibrations, and variable mass systems. Dynamics of rigid body in plane motion, relative motion in rotating coordinates, and gyroscopic motion. (Same as MAE 272). Prerequisites: MA 201 and (CE 271 or MAE 271).

CE 284 - SURVEYING

Semester Hours: 2

Basic theory and practical field methods for engineering applications. Measurements and errors in surveying. Leveling, traversing, stadia, topographic surveys, mapping, and circular curves. 1.5 hour lecture and 2 hour lab. Prerequisite with concurrency: CE 211. Corequisite: CE 284L.

CE 284L - SURVEYING LAB

Semester Hours: 0

Corequisite: CE 284.

CE 321 - INTRO TO TRANSPORTATION ENG

Semester Hours: 3

Theory, design, and operation of various modes of transportation with emphasis on traffic flow. Prerequisites: CE 284 and MA 171.

CE 370 - MECHANICS OF MATERIALS

Semester Hours: 3

Design and analysis of simple structures for predetermined strength and deformation requirements. Topics include: theory of stress-strain, Hooke's Law, analysis of stresses and deformations in bodies loaded by axial, torsional, bending, and combined loads, and analysis of statically indeterminate systems. Same as MAE 370. Prerequisites: (CE 211 or MAE 211) and (CE 271 or MAE 271) and MA 244, corequisite CE 375.

CE 370L - LABORATORY

Semester Hours: 0

Corequisite: CE 370 or MAE 370.

CE 372 - SOIL MECHANICS & FOUNDATION

Semester Hours: 3

Index properties and characteristics of soils. Compaction shear, compressibility and permeability. Application to analysis and design of foundation elements. Laboratory included. Prerequisites: (CE 370 or MAE 370) Prerequisite with concurrency: MAE 310 Corequisite: CE 373.

CE 373 - SOIL MECHANICS LAB

Semester Hour: 1

Corequisite: CE 372.

CE 375 - MECHANICS OF MATERIALS LAB

Semester Hour: 1

Experimental verification of material properties and structural deformation under axial, torsional, and bending loads. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. (Same as MAE 375). Corequisites: CE 370.

CE 380 - CIVIL ENGINEERING MATERIALS

Semester Hours: 3

Performance properties and selection criteria of various materials used in the practice of civil engineering including aggregates, Portland cement, concrete, bituminous materials, and timber. Emphasis will be placed on standard methods of testing and characterization. Includes a weekly lab. Prerequisites: CE 370 or MAE 370. Corequisite: CE 380L.

CE 380L - CE MATERIALS LAB

Semester Hours: 0

Standard methods of testing and characterization of various materials used in the practice of civil engineering. Determination of civil engineering materials properties. Corequisite: CE 380.

CE 381 - STRUCTURAL ANALYSIS I

Semester Hours: 3

Reactions, shears, moments in determinate structures. Influence lines, energy methods in computing deformations. Introduction to indeterminate structures. Prerequisites: (CE 272 or MAE 272) and (CE 370 or MAE 370).

CE 411 - INTRO GEOGRAPHICAL INFO SYS

Semester Hours: 3

Introduces vector, raster, and tabular concepts. Topics include spatial relationships, map features, attributes, relational database, layers of data, data ingesting, digitizing from maps, projections, output, and availability of public data sets. Same as CE 511.

CE 412 - ADVANCED CE GRAPHICS

Semester Hours: 3

Trending geospatial and graphics technologies including 3-D land development workflows, GPS data acquisition and processing of aerial, lidar, and topographical surveys, terrain modeling, earthwork, sanitary, drainage, and transportation design methodologies within the graphical CAD environment. Prerequisite: CE 211.

CE 420 - URBAN TRANSPORTATION PLANNING

Semester Hours: 3

Planning of highways systems and terminals as part of a complete planning approach; public transportation system planning; transportation planning studies, projection analysis, plan formulation, and programming. Same as CE 520. Prerequisite: CE 321.

CE 422 - TRAFFIC ENGINEERING DESIGN

Semester Hours: 3

Driver, pedestrian and vehicle characteristics. Principles of traffic flow for improved highway traffic service and safety. Design freeways, rural roads, urban streets, traffic signals, signs, channelization, and other traffic control measures. Prerequisite: CE 321.

CE 441 - HYDRAULIC ENGINEERING DESIGN

Semester Hours: 3

Water-hammer analysis, open channel flow, hydraulic structures such as dams, spillways, stilling basins, flood control devices, locks, pipe-flow systems and water-supply facilities, and computational methods. Prerequisite: MAE 310.

CE 449 - INTRO ENVIRONMENTAL ENGR

Semester Hours: 3

Engineering aspects of air, water, and thermal pollution. Hydrologic cycle, water sources and uses; industrial and other sources of primary and secondary pollutants. Transport process in environmental problems and their control. (Same as CE 549 and CHE 549) Prerequisite: MAE 341. Prerequisite with concurrency: MAE 310.

CE 452 - CREDIT EXPERIENTIAL LEARNING

Semester Hours: 1-3

Students are engaged in research and creative projects as meaningful experiential learning opportunities. The course fosters cooperation between students and faculty in a research or creative endeavor, and enhances the students' education via active participation in a research, creative or scholarly project.

CE 456 - WATER QUALITY CONTROL PROC

Semester Hours: 3

Principles of public water-supply design. Source selection, collection, purification, and distribution for municipal use. Collection of waste waters, their treatment and disposal. (Same as CE 556). Prerequisite: CE 449.

CE 457 - HYDROLOGY

Semester Hours: 3

Occurrence and movements of water over the earth's surface for engineering planning and design. Relationship of precipitation to stream-flow with frequency analysis, flood routing, and unit hydrograph theory. (Same as CE 557) Prerequisite: MAE 310.

CE 458 - ENVIRONMENTAL ENGR DESIGN

Semester Hours: 3

Engineering design and project management of environmental quality/restoration systems. Students will complete a design project focusing on one of the following systems: sanitary landfill, municipal incinerator, or groundwater/site remediation. Lectures will address skills for technical presentations and proposal writing, as well as process design and decision making. (Same as CE 558) Prerequisite with concurrency CE 449.

CE 459 - SEL TOP IN CIVIL ENGR

Semester Hours: 1-6

Special topics in Civil Engineering.

CE 471 - ADVANCED SOIL MECHANICS

Semester Hours: 3

Continuum mechanics applied to soil behavior. Theoretical approaches to consolidation, shear strength, slope stability and soil stabilization.

Prerequisite: CE 372.

CE 472 - SOIL DYNAMICS

Semester Hours: 3

Behavior of soils under dynamic, earthquake and blast loading. Analysis of foundation vibration and isolation. Prerequisite: CE 372.

CE 473 - EARTH STRUCTURES ENGRG

Semester Hours: 3

Principles of earth structure design. Theories of earth pressures and the design of retaining wall systems including gravity, cantilever, mechanically stabilized earth, flexible sheet pile, and anchored wall systems. Methods of stability analyses for retaining walls, earth slopes, and embankment design. (Same as CE 573) Prerequisites: CE 372 and CE 373.

CE 474 - APP MECHANICS OF SOLIDS

Semester Hours: 3

Stresses and strains at a point, theories of failures, stress concentration factors, thick-walled cylinders, torsion of noncircular members, curved beams, unsymmetrical bending and shear center. (Same as CE 574 and MAE 474 or MAE 574) Prerequisites: CE 370 or MAE 370.

CE 481 - STRUCTURAL ANALYSIS II

Semester Hours: 3

Reactions, shears, moments and deformations in complex structural systems. Statically indeterminate systems, advanced geometric and energy methods. Prerequisite: CE 381.

CE 483 - REINFORCED CONCRETE DESIGN

Semester Hours: 3

Theory and practice of reinforced concrete design. Theory and design of high strength concrete mixtures. Design of reinforced concrete beams, slabs, and columns using the ultimate strength design code of the American Concrete Institute. Same as CE 583. Prerequisites: CE 380 and CE 381.

CE 484 - STEEL DESIGN

Semester Hours: 3

Principles of design of steel structures using ASD methods. Analysis and design of structural elements using beams, columns, connection details. (Same as CE 584). Prerequisites: CE 381 and MA 244.

CE 485 - FOUNDATION ENGINEERING

Semester Hours: 3

Design of foundations with emphasis on reinforced concrete, footings, caissons, piles retaining walls, and mat foundations. Effect of bearing pressure on foundations. (Same as CE 585) Prerequisites: CE 372 and CE 483.

CE 487 - BRIDGE DESIGN

Semester Hours: 3

Bridge loads, load distribution, composite beam bridges, bridge bearings, reinforced and prestressed concrete slab and T-beam bridges, bridge evaluations and ratings, and upgrade methodology. (Same as CE 587) Prerequisite: CE 483.

CE 498 - CIVIL ENGINEERING DESIGN I

Semester Hour: 1

Planning and analysis for a preliminary civil engineering design project. Topics include fundamentals of management, public policy, cost estimation, environmental impacts, soils analysis, and ethical considerations. Part 1 of a 2-part course. Prerequisites: CE 321 and CE 399 or EGR 399 Prerequisites with concurrency: CE 372, CE 483.

CE 499 - CIVIL ENGINEERING DESIGN II

Semester Hours: 2

Analysis and design of a complete civil engineering project including establishment of design criteria, cost estimates, specifications, and plans. Topics include ethical considerations in engineering design and practice. Emphasis on developing written and oral communication skills. Prerequisites: CE 498.

Corequisite: CE 499L.

CE 499L - DESIGN II LABORATORY

Semester Hours: 0

Corequisite: CE 499.

Civil and Environmental Engineering, BSCE - General Concentration

To obtain a Bachelor of Science degree in Civil Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	

HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Science: Choose one or two	
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
PY 101	GENERAL PSYCHOLOGY I
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 206	MARRIAGE AND FAMILY
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES

Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Civil Engineering		
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 272	DYNAMICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
CE 372	SOIL MECHANICS & FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB & ENGR STATISTICS I	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3

CE 483	REINFORCED CONCRETE DESIGN	3
CE 484	STEEL DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Civil Engineering General Concentration Electives		
Select 6 semester hours from any 400-level CE elective		6
Total Semester Hours		128

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17

Year 2

Fall		
MA 201	CALCULUS C	4
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
MA 244	INTRO TO LINEAR ALGEBRA	3
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
Term Semester Hours:		18
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CE 272	DYNAMICS	3
CE 370	MECHANICS OF MATERIALS	3

CE 375	MECHANICS OF MATERIALS LAB	1
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Year 3		
Fall		
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB ENGR STATISTICS I	3
EGR 399	ENGINEERING MENTORING II	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Spring		
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
CE 372	SOIL MECHANICS FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Year 4		
Fall		
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 484	STEEL DESIGN	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE Con Class 1		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Spring		
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
CE Con Class 2		3
Term Semester Hours:		14
Total Semester Hours:		128

Civil Engineering, BSCE - Environmental Concentration

To obtain a Bachelor of Science degree in Civil Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	

Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	

Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Civil Engineering		
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 272	DYNAMICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
CE 372	SOIL MECHANICS & FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB & ENGR STATISTICS I	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 484	STEEL DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Civil Engineering Environmental Concentration Electives		
CE 456	WATER QUALITY CONTROL PROC	3
CE 457	HYDROLOGY	3
Total Semester Hours		128

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1

Term Semester Hours: 15

Spring

MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: 17

Year 2

Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2

Term Semester Hours: 18

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CE 272	DYNAMICS	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
EGR 299	ENGINEERING MENTORING I	0
HSBS/FHA See Charger Foundations Areas II and IV		3

Term Semester Hours: 17

Year 3

Fall		
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB ENGR STATISTICS I	3
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: 15

Spring

MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
CE 372	SOIL MECHANICS FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16

Year 4**Fall**

CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 484	STEEL DESIGN	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 457	HYDROLOGY	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16

Spring

CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 456	WATER QUALITY CONTROL PROC	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Term Semester Hours:		14
Total Semester Hours:		128

Civil Engineering, BSCE - Structural Concentration

To obtain a Bachelor of Science degree in Civil Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	

EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Civil Engineering		

CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 272	DYNAMICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
CE 372	SOIL MECHANICS & FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB & ENGR STATISTICS I	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 484	STEEL DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Civil Engineering Structural Concentration Electives		
CE 481	STRUCTURAL ANALYSIS II	3
CE 487	BRIDGE DESIGN	3
Total Semester Hours		128

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3

HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Year 2		
Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
Term Semester Hours:		18
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CE 272	DYNAMICS	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17
Year 3		
Fall		
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB ENGR STATISTICS I	3
EGR 399	ENGINEERING MENTORING II	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Spring		
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
CE 372	SOIL MECHANICS FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Year 4		
Fall		
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 481	STRUCTURAL ANALYSIS II	3
CE 484	STEEL DESIGN	3

CE 498	CIVIL ENGINEERING DESIGN I	1
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16
Spring		
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 487	BRIDGE DESIGN	3
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Term Semester Hours:		14
Total Semester Hours:		128

Civil Engineering, BSCE - Transportation Concentration

To obtain a Bachelor of Science degree in Civil Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Civil Engineering		
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 272	DYNAMICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
CE 372	SOIL MECHANICS & FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3

CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB & ENGR STATISTICS I	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 484	STEEL DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Civil Engineering Transportation Concentration Electives		
CE 411	INTRO GEOGRAPHICAL INFO SYS	3
CE 420	URBAN TRANSPORTATION PLANNING	3
Total Semester Hours		128

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17

Year 2

Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
Term Semester Hours:		18

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CE 272	DYNAMICS	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17

Year 3**Fall**

ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB ENGR STATISTICS I	3
EGR 399	ENGINEERING MENTORING II	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15

Spring

MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
CE 372	SOIL MECHANICS FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16

Year 4**Fall**

CE 420	URBAN TRANSPORTATION PLANNING	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 484	STEEL DESIGN	3
CE 498	CIVIL ENGINEERING DESIGN I	1
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16

Spring

CE 411	INTRO GEOGRAPHICAL INFO SYS	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Term Semester Hours:		14

Total Semester Hours:	128
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Electrical and Computer Engineering

272 Engineering Building
Telephone: 256.824.6316
Email: ece@uah.edu

URL: <http://www.uah.edu/eng/departments/ece> (<http://www.uah.edu/eng/departments/ece/>)

Interim Department Chair: Tommy Morris, PhD

Associate Chair: Laurie Joiner, PhD

Mission

The mission of the Electrical and Computer Engineering Department is to develop and maintain high quality undergraduate and graduate programs in Computer, Cybersecurity, and Electrical Engineering to meet the needs of its constituents, and to participate in scholarly and productive research that contributes to the economic well-being and quality of life for the residents of Huntsville, the State of Alabama, and the citizens of the United States of America.

Computer, Cybersecurity, & Electrical Engineering Programs

The Department of Electrical and Computer Engineering (ECE) offers three undergraduate programs. The Computer Engineering program deals with the analysis, design, and application of both computer hardware and software and computer systems through a blend of Computer Engineering, Computer Science, and Electrical Engineering courses. The Cybersecurity Engineering program offers coursework that enables students to pursue careers in the cybersecurity and information assurance fields. The program provides a foundation in computer programming, computer hardware and software, and digital circuits before delving into cybersecurity topics such as digital forensics, software reverse-engineering, network security and cybersecurity management. The Electrical Engineering program offers coursework that enables students to pursue careers in any of the many diverse facets of Electrical Engineering such as electronics, networks, power systems, instrumentation, communications, and controls.

The Departments of Electrical and Computer Engineering offer the following degree programs:

- Bachelor of Science in Computer Engineering (p. 478)
- Bachelor of Science in Cybersecurity Engineering (p. 481)
- Bachelor of Science in Electrical Engineering (p. 485)

Program Educational Objectives

*Within a few years of graduation, **computer engineering** graduates will have:*

- Established successful careers as computer engineers and received recognition as emerging leaders in government, industry and academia
- Created viable solutions through the application of their knowledge base and capacity for communicating ideas effectively to advance the state-of-the-art
- Demonstrated continuous professional development and pursued advanced-study opportunities

*Within a few years of graduation, **cybersecurity engineering** graduates will have:*

- Established successful careers as cybersecurity professionals and received recognition as emerging leaders in government, industry and academia
- Created viable solutions through the application of their knowledge base and capacity for communicating ideas effectively to advance the state-of-the-art
- Demonstrated continuous professional development and pursued advanced-study opportunities

*Within a few years of graduation, **electrical engineering** graduates will have:*

- Established successful careers as electrical engineers and received recognition as emerging leaders in government, industry and academia
- Created viable solutions through the application of their knowledge base and capacity for communicating ideas effectively to advance the state-of-the-art
- Demonstrated continuous professional development and pursued advanced-study opportunities

Majors in Computer, Cybersecurity, and Electrical Engineering

- Computer Engineering, BSCpE (p. 478)
- Cybersecurity Engineering, BSCBSY (p. 481)
- Electrical Engineering, BSEE (p. 485)

CPE 211 - INTRO COMPUTER PROG FOR ENGR

Semester Hours: 3

Advanced programming in a high level language such as C++ with an emphasis on practice in solving engineering problems using top-down design and algorithms. Prerequisites: EGR 101 and MA 171 (with concurrency).

CPE 211L - LABORATORY

Semester Hours: 0

This lab is the 0-credit lab component of the 3 credit course.

CPE 212 - FUNDAMENTALS SOFTWARE ENGRG

Semester Hours: 3

Introduction to structured programming using C++. Search and sort algorithms. Introduction to data structures. Applications to engineering related problems. Prerequisite: CPE 211.

CPE 221 - COMPUTER ORGANIZATION

Semester Hours: 3

Functional organization of stored-program digital computers including number representation, assembly language programming, computer hardware, micro-operations, and control logic; microprocessor architecture. Prerequisite: CPE 211 and EE 202 w/concurrency.

CPE 299 - CPE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: CPE 211.

CPE 322 - DIGITAL HDWR DESIGN FUNDMNTLS

Semester Hours: 3

Advanced concepts in Boolean algebra, use of hardware description languages as a practical means to implement hybrid sequential and combinational designs, digital logic simulation, rapid prototyping techniques, and design for testability concepts. Focuses on the actual design and implementation of sizeable digital design problems using representative Computer Aided Design (CAD) tools. Laboratory required CPE 324. Prerequisite: CPE 221.

CPE 323 - INTRO TO EMBEDDED COMPUTER SYS

Semester Hours: 3

Hardware and software aspects in building embedded computer systems. Includes methods to evaluate design tradeoffs of different technology choices and technology capabilities and limitations of system components necessary to design and implement an embedded system and interface it to the outside world. Laboratory required CPE 325. Prerequisite: CPE 221.

CPE 324 - ADV LOGIC DESIGN LABORATORY

Semester Hour: 1

This course includes experimentation of fundamental concepts in digital logic design. Use of hardware description languages as a practical means to implement hybrid sequential and combinational digital designs, digital logic simulation, and rapid prototyping techniques. Corequisite laboratory component of CPE 322.

CPE 325 - EMBEDDED SYSTEMS LAB

Semester Hour: 1

Student gain experience working with modern integrated software development environments and hardware platforms to solve practical problems. Corequisite laboratory component of CPE 323.

CPE 348 - INTRO TO COMPUTER NETWORKS

Semester Hours: 3

Introduction to the concepts and architecture of computer networks. Review of communication protocols using the Internet and the TCP/IP model as major examples. High-speed networking, congestion control, data compression, security and distributed processing. Prerequisites: CPE 211 and CPE 221.

CPE 353 - SOFTWARE DESIGN & ENGINEERING

Semester Hours: 3

Hands-on experience developing a substantial software project using software design tools such as SQL database system and the Qt graphical interface development environment. Introduction to a software process including requirements elicitation and testing techniques. Prerequisites CPE 212 and CS 317 (with concurrency).

CPE 381 - FUND SIGNALS & SYS FOR COMP EN

Semester Hours: 3

Introduction to the fundamental concepts in continuous and discrete signals and systems, and methods of signal and system analysis for computer engineers. No credit for EE or OPE students. Prerequisites: EE 213 and MA 238.

CPE 399 - CPE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: CPE 299 and CPE 212.

CPE 412 - INTRO TO PARALLEL PROGRAMMING

Semester Hours: 3

Introduction to processing in parallel and distributed computing environments. Design and analysis of parallel algorithms. Parallel programming environments: Pthreads for shared memory multiprocessor systems, and PVM/MPI for distributed networked computers. (Same as CPE 512)

Prerequisites: CPE 212 and CS 317.

CPE 423 - HARDWARE/SOFTWARE CO-DESIGN

Semester Hours: 3

Study and design of Systems On A Chip (SOC). Emphasis on Field Programmable realizations of SOC systems. (Same as CPE 523) Prerequisites: CPE 322 and CPE 426.

CPE 426 - VLSI HARDWARE DESC LANG/MODL/S

Semester Hours: 3

Modern VLSI design techniques and tools, such as silicon compilers, (V)HDL modeling languages, placement and routing tools, synthesis tools, and simulators. Students will design, simulate, and layout using both programmable logic families and ASIC libraries. (Same as CPE 526) Prerequisites: EE 202 and EE 315.

CPE 427 - VLSI DESIGN I

Semester Hours: 3

Introduction to VLSI design using CAD tools, CMOS logic, switch level modeling, circuit characterization, logic design in CMOS, systems design methods, test subsystem design, design examples, student design project. Laboratory required CPE 427L. (Same as CPE 527) Prerequisites: EE 202 and EE 315.

CPE 427L - LABORATORY

Semester Hours: 0

Students enrolling in CPE 427L must enroll concurrently in CPE 427.

CPE 431 - INTRO COMPUTER ARCHITECTURE

Semester Hours: 3

Study of existing computer structures. Computer organization with emphasis on busing systems, storage systems, and instruction sets. Performance models and measures, pipelining, cache and virtual memory, introduction to parallel processing. (Same as CPE 531) Prerequisites: CPE 322 and CPE 323.

CPE 434 - OPERATING SYSTEMS

Semester Hours: 3

Study of the fundamentals of operating systems. Emphasis on processes, file management, interprocess communication, input-output, virtual memory, networking and security. Course must be taken concurrently with CPE 435. Prerequisites: CPE 221 and CPE 353/.

CPE 435 - OPERATING SYSTEMS LABORATORY

Semester Hour: 1

Laboratory component of Operating Systems course. Experiments include implementation of device drivers, process and thread management, virtual memory management, dynamic memory management, file-systems. Students must take this course concurrently with CPE 434.

CPE 436 - INTERNALS OF MODERN OPER SYS

Semester Hours: 3

In-depth study of the design of modern operating systems such as Unix, NT and Linux. Emphasis on the internals and implementation details of interrupt processing, real-time clocks, device independent I/O, process management, memory management, file management. (Same as CPE 536) Prerequisite: CPE 434.

CPE 449 - INTRO TO CYBERSECURITY ENGINRG

Semester Hours: 3

Introduction to cryptography and computer security through hardware and physical security to a knowledge of audit methods, security management, and public law. Includes skills such as business process analysis, software security, IAE evaluation, and IAE testing. (Same as CPE 549) Prerequisite: CPE 348.

CPE 453 - SENIOR SOFTWARE STUDIO

Semester Hours: 3

Basic concepts of software engineering. Software project management including specifications, design, implementation, testing and documentation. Software design and management tools. Includes a multi-student software project. Prerequisites: CPE 353 and CS 317.

CPE 455 - SECURE SOFTWARE DEVELOPMENT

Semester Hours: 3

Overview of methodologies for development of high-assurance software. Major topics include analysis of security and safety risks, software certification criteria, the software development lifecycle, risk mitigation, design and coding best practices, verification techniques, and auditing of software for insecure and unsafe coding constructs. Prerequisites: CPE 353 or CS 307.

CPE 457 - SOFTWARE REVERSE ENGINEERING

Semester Hours: 3

This course provides fundamental knowledge of software reverse engineering. The course provides the ability (a) to understand software of unknown origin or software for which source code is unavailable, (b) to determine how something works, (c) to discover data used by software, and (d) to aid in the analysis of software. The course introduces tools for reverse engineering, including disassemblers, debuggers, monitors, virtual machines and modern tools for software analysis. Prerequisites: CPE 353 or CS 307.

CPE 459 - SYSTEMS SECURITY

Semester Hours: 3

This course (1) introduces cyber physical, industrial control, embedded, and Supervisory Control and Data Acquisition (SCADA) control systems, (2) examines common vulnerabilities and threats associated with these systems, and (3) examine techniques to defend these systems from cyber-attacks. Prerequisite: CPE 348 and CPE 449.

CPE 488 - CYBERSECURITY ENG CAPSTONE I

Semester Hours: 3

Students will participate in a team based cybersecurity project which is a culminating experience for the cybersecurity degree. For a target system, students teams will conduct and document a risk assessment, then design, implement, and test cybersecurity controls to mitigate threats to the system. Prerequisites: CPE 399 and Prerequisite with concurrency: CPE 449, CPE 457, CS 465.

CPE 490 - SPECIAL TOPICS IN COMP ENGR

Semester Hours: 1-3

Topics will vary. The course may be repeated when topics vary. Consent of advisor.

CPE 490L - SPECIAL TOPICS LABORATORY

Semester Hours: 0

CPE 495 - COMPUTER ENGINEERING DESIGN I

Semester Hours: 3

First course in the senior capstone design sequence. Application of techniques to the design of electronic systems that have digital hardware and software components. Application of engineering courses to solve real-world design problems. Must be taken in the same academic year as CPE 496. Prerequisites: CPE 323, CPE 353, EE 315, EE 322 and CPE 399 or EGR 399.

CPE 496 - COMPUTER ENGINEERING DESIGN II

Semester Hours: 3

Second course in the senior capstone design sequence. Must be taken in the same academic year as CPE 495. Prerequisite: CPE 495.

CPE 497 - COMPUTER ENGR INTERNSHIP

Semester Hours: 1-3

Active involvement in an engineering project in an engineering enterprise, professional organization, or government agency that has particular interest and relevance to the student. Junior/senior standing and approval from Engineering Faculty advisor.

CPE 498 - CYBERSECY ENGR CAPSTONE II

Semester Hours: 3

Students will participate in a team based cybersecurity project which is a culminating experience for the cybersecurity degree. For a target system, student teams will conduct and document a risk assessment, then design, implement, and test cybersecurity controls to mitigate threats to the system.

Prerequisite: CPE 488. Prerequisite w/ concurrency: CPE 459.

CPE 499 - PROJECT IN COMPUTER ENGRG

Semester Hours: 3

Individual design project under the direction of an ECE faculty member. Senior standing and permission of instructor required.

EE 202 - INTRO DIGITAL LOGIC DSGN

Semester Hours: 3

Engineering approaches to design and analysis of digital logic circuits. Boolean algebra, Karnaugh maps, design using Hardware Description Languages, digital computer building blocks, standard logic (SSI MSI) vs. programmable logic (PLD, PGA0, finite state machine design). Prerequisites: EGR 101.

EE 203 - DIGITAL LOGIC DESIGN LAB

Semester Hour: 1

Experiments in applying Boolean logic concepts to digital design. The course introduces students to small-scale prototyping and simulation techniques that are used to implement and evaluate digital combinational and sequential logic designs. Prerequisite: EE 202.

EE 213 - ELECTRICAL CIRCUIT ANALYSIS I

Semester Hours: 3

Basic concepts of DC and AC circuit theory and analysis. Includes both DC and AC power. Prerequisites: MA 201 and PH 112 both w/concurrency.

EE 223 - DES & MOD ELEC CIR & SYS

Semester Hours: 3

Electrical circuit and systems design and modeling. Includes using modern tools (i.e. Matlab and simulink) to design and model circuits. Introduces and reinforces engineering design principles. Prerequisites: EE 202 & EE 213.

EE 299 - EE MENTORING I

Semester Hours: 0

Sophomore-level mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: CPE 211.

EE 307 - ELECTRICITY & MAGNETISM

Semester Hours: 3

Basic concepts of electrostatics, electric potential theory, electric fields and currents, fields of moving charge, magnetic fields, time varying electromagnetic fields and Maxwell's equations. Prerequisites: EE 213, MA 238 and MA 244.

EE 308 - ELECTROMAGNETIC ENGR

Semester Hours: 3

Review of Maxwell's equations, uniform plane waves in different types of media, reflection, transmission of uniform plane waves, transmission lines, waveguides, and antennas. Prerequisites: EE 307.

EE 310 - SOLID STATE FUNDAMENTALS

Semester Hours: 3

Introduction to semiconductors including crystalline structure, energy bands and charge carriers, excess carriers, and thermal properties. Introduction to semiconductor junctions, the bipolar junction transistor, and the MOSFET. Prerequisites: PH 113 and MA 238.

EE 315 - INTRO ELECTRONIC ANAL & DESIGN

Semester Hours: 3

Properties of diode, bipolar transistors, FET and operational amplifiers, analysis of DC and AC small-signal operation and circuit models for the design and analysis of electronic circuits. Prerequisite: EE 213.

EE 316 - ELE CIRCUITS & ELTRNC DSGN LAB

Semester Hour: 1

Electric circuit experiments including first and second order DC circuits, maximum power transfer, impedance measurements, transformers, measurement of electronic device characteristics, and design and testing of operational amplifier circuits and single-stage amplifiers using MOSFETs and BJTs. Prerequisite: EE 315.

EE 382 - ANALY METH CONTINUOUS TIME SYS

Semester Hours: 3

Fourier Series, Fourier and Laplace transforms with emphasis on their physical interpretation. System representation by transfer functions and impulse response functions, convolution integral, transient response, and modeling and simulation. Prerequisites: EE 213, MA 238, and MA 244.

EE 383 - ANALY METH MULTIVARIABLE

Semester Hours: 3

Discrete time signals and systems, sampling techniques, Z and discrete Fourier transforms, multivariable systems. Introduction to digital signal processing. Prerequisite: EE 382.

EE 384 - DIG SIGNAL PROCESS LAB

Semester Hour: 1

Design and programming of digital processing algorithms such as DFT, FFT, IIR, and FIR filtering. Prerequisites: EE 383 or CPE 381.

EE 385 - RANDOM SIGNALS & NOISE

Semester Hours: 3

Random variables and probabilities description of signals. Introduction to random processes such as autocorrelations, cross correlation, and power spectral density, Noise analysis of thermal, shot, white, and colored. Response of electrical systems to random inputs. Prerequisites: EE 382 or CPE 381.

EE 386 - INTRO CONTROL/ROBOTIC SYS

Semester Hours: 3

Theory and analytical techniques for modeling, analysis and control of dynamical systems. Transfer functions, block-diagrams, frequency response, stability criteria, series and feedback controller design, and digital control. Introduction to the dynamic analysis and control of robotic systems. Prerequisites: EE 382 or CPE 381.

EE 399 - EE MENTORING II

Semester Hours: 0

Junior level mentoring and advising from engineering faculty and staff. Prerequisites: EE 299 and EE 223.

EE 401 - REAL-TIME DIGITAL SIGNAL PROCE

Semester Hours: 3

Introduction to digital signal processor architectures, applications, assembly language programming, and development tools for designing and implementing DSP systems. Prerequisites: EE 383 or CPE 381.

EE 410 - SELECTED TOPICS/ECE

Semester Hours: 1-6

Special topics in Electrical Engineering.

EE 410L - SELECTED TOPIC LABORATORY

Semester Hours: 0

EE 411 - ELECTRIC POWER SYSTEM

Semester Hours: 3

Power generation, transmission and distribution. Three-phase circuits, conventional and renewable power systems, transformers and motors, protection and control. Prerequisite: EE 382.

EE 412 - SR DSGN PROJ ELECT ENGR

Semester Hours: 1-6

Individual design project under the direction of an ECE faculty member. Prerequisites: Senior standing and permission of instructor.

EE 414 - ANALOG & DIGITAL FILTER DESIGN

Semester Hours: 3

Analog filter design via Butterworth, Chebyshev, and elliptical approximation. Active filter design using operational amplifiers. Digital filter design methods. Prerequisites: EE 315 and EE 383.

EE 416 - ELECTRONICS II

Semester Hours: 3

Integrated circuits and micro-devices related to multistage amplifiers, oscillators, design specifications, operational amplifiers, and microunits. Computer simulation. Prerequisites: EE 313 and EE 315.

EE 417 - PHOTOVOLTAIC FUNDAMENTALS

Semester Hours: 3

The course will cover fundamental device physics for solar cell operation, reliability issues in panel and module design, partial shading problems on PV module, and cost and efficiency analysis. Prerequisite: EE 310.

EE 421 - ANTENNA DESIGN & ANALYSIS

Semester Hours: 3

Covers analytical methods and mathematical foundations for solving antenna radiation problems, based on Maxwell's equations. Different types of antennas will be studied, including wire, phased array, aperture, microstrip, and reflector antennas. Prerequisite: EE 308.

EE 423 - COMM SYS & SIMULATION W/ LAB

Semester Hours: 3

Modern test equipment and computer-based simulation methods are used to conduct experiments in the area of communication systems. Includes experiments to investigate signal modulation, demodulation, and filters. (Same as EE 523) Prerequisite: EE 426.

EE 424 - INTRO DATA COMMUN NETWORKS

Semester Hours: 3

Overview of historic development of modern telephone and data communication systems, system architecture, standards, broadband switching systems, modems, protocols, personal and mobile communications, digital modulation techniques. (Same as EE 504) Prerequisites: EE 383 and EE 385.

EE 426 - COMMUNICATION THEORY

Semester Hours: 3

Signals and systems including the Hilbert transform, cross and auto correlation, power density spectrum, and the Wiener-Khintchine theorem. Filter design. Linear and nonlinear modulation and demodulation methods and circuits. Phase lock and frequency feedback techniques. (Same as EE 506). Prerequisites: EE 382 or CPE 381.

EE 436 - DIGITAL ELECTRONICS

Semester Hours: 3

Introduction to digital electronics. The Metal-Oxide-Semiconductor (MOS) transistor. MOS inverters and gate circuits. Bipolar junction transistors, ECL inverters, and bipolar digital gates. Semiconductor Memories. (Same as EE 516) Prerequisites: EE 202 and EE 315.

EE 437 - ELECTRONICS MANUF PROCESSES

Semester Hours: 3

Concepts, facilities, and technology utilized in the manufacture of electronic components and products. Includes printed wiring board fabrication and component mounting methods, automation, quality and reliability, product testing, and economic issues. Prerequisite: Senior standing. (Same as ISE 437 and EE 537).

EE 451 - OPTOELECTRONICS

Semester Hours: 3

Basic concepts for understanding electro-optic devices and systems. Blackbody radiation, light sources, quantum and thermal detectors, noise in detectors, optical heterodyning, acousto-optic, magneto-optic, and electro-optic modulation. (Same as OPE 451) Prerequisites: EE 307 and EE 315.

EE 453 - LASER SYSTEMS

Semester Hours: 3

Spontaneous and stimulated emission, population inversion, optical resonators, three- and four-level systems, Q-switching and mode-locking, semiconductor lasers, integrated optic waveguides and couplers, scanning systems, high-power industrial application. Prerequisite: EE 307.

EE 454 - OPTICAL FIBER COMMUNICA

Semester Hours: 3

Introduction to optical fibers and their transmission characteristics, optical fiber measurements, sources and detectors, noise considerations for digital and analog communication, and optical fiber systems. (Same as OPE 454) Prerequisites: (EE 307 or PH 432) and (EE 382 or CPE 381).

EE 486 - INTRO MODERN CONTROL SYSTEMS

Semester Hours: 3

Modern control theory including techniques for modeling, analysis and control of MIMO dynamic systems, state-variable feedback control design and state observers. Kalman-filtering. Fundamentals of nonlinear systems analysis and discrete-time system modeling, analysis and control. Prerequisites: EE 386.

EE 494 - EE DESIGN PROJECTS

Semester Hours: 3

Senior Capstone Course. Design, simulation, and construction of technical projects. Review of legal, economic, and ethical issues. Students work as individuals or teams to design, implement, test, and evaluate their projects. Oral presentation and written reports are required. Senior Standing. Prerequisites: Senior Standing and ISE 321, EE 308, EE 310, EE 313, EE 315, CPE 323, EE 383, EE 386 and EE 399.

EE 497 - ELEC ENGR INTERNSHIP

Semester Hours: 1-3

Active involvement in an engineering project in an engineering enterprise, professional organization, or government agency that has particular interest and relevance in the student. Prerequisites: Junior or Senior standing and Approval of Engineering Faculty Advisor.

Computer Engineering, BSCpE

To obtain a Bachelor of Science degree in Computer Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877
Social and Behavioral Science: Choose one or two	
AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
PY 101	GENERAL PSYCHOLOGY I
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 206	MARRIAGE AND FAMILY
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES

Code	Title	Semester Hours
Additional Mathematics		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Computer Science		
CS 214	INTRO DISCRETE STRUCTURE	3
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
Computer Engineering		
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
CPE 221	COMPUTER ORGANIZATION	3
EE 315	INTRO ELECTRONIC ANAL & DESIGN	3
EE 316	ELE CIRCUITS & ELTRNC DSGN LAB	1
CPE 322 & CPE 324	DIGITAL HDWR DESIGN FUNDMNTLS and ADV LOGIC DESIGN LABORATORY	4
CPE 323 & CPE 325	INTRO TO EMBEDDED COMPUTER SYS and EMBEDDED SYSTEMS LAB	4
CPE 348	INTRO TO COMPUTER NETWORKS	3
CPE 353	SOFTWARE DESIGN & ENGINEERING	3
CPE 381	FUND SIGNALS & SYS FOR COMP EN	3
EE 384	DIG SIGNAL PROCESS LAB	1
EE 385 or ISE 390	RANDOM SIGNALS & NOISE PROB & ENGR STATISTICS I	3

CPE 431	INTRO COMPUTER ARCHITECTURE	3
CPE 434 & CPE 435	OPERATING SYSTEMS and OPERATING SYSTEMS LABORATORY	4
CPE 495	COMPUTER ENGINEERING DESIGN I	3
CPE 496	COMPUTER ENGINEERING DESIGN II	3

Computer Engineering Electives

Select 12 semester hours of 300-level or above CPE, EE, CS or other upper-level courses approved by the Department	12
Total Semester Hours	129

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1

Term Semester Hours: 15

Spring

MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: 17

Year 2

Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
EGR 299	ENGINEERING MENTORING I	0
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3

Term Semester Hours: 17

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
CS 214	INTRO DISCRETE STRUCTURE	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
CPE 221	COMPUTER ORGANIZATION	3

Term Semester Hours: 15

Year 3**Fall**

CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
EGR 399	ENGINEERING MENTORING II	0
EE 315	INTRO ELECTRONIC ANAL DESIGN	3
CPE 323	INTRO TO EMBEDDED COMPUTER SYS	3
CPE 325	EMBEDDED SYSTEMS LAB	1
CPE 353	SOFTWARE DESIGN ENGINEERING	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16

Spring

CPE 322	DIGITAL HDWR DESIGN FUNDMNTLS	3
CPE 324	ADV LOGIC DESIGN LABORATORY	1
CPE 348	INTRO TO COMPUTER NETWORKS	3
CPE 381	FUND SIGNALS SYS FOR COMP EN	3
EE 316	ELE CIRCUITS ELTRNC DSGN LAB	1
CPE Elective I		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17

Year 4**Fall**

EE 384	DIG SIGNAL PROCESS LAB	1
CPE 431	INTRO COMPUTER ARCHITECTURE	3
CPE 495	COMPUTER ENGINEERING DESIGN I	3
CPE Elective II		3
ISE 390	PROB ENGR STATISTICS I	3
or EE 385	or RANDOM SIGNALS & NOISE	
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16

Spring

CPE 434	OPERATING SYSTEMS	3
CPE 435	OPERATING SYSTEMS LABORATORY	1
CPE 496	COMPUTER ENGINEERING DESIGN II	3
CPE Elective III		3
CPE Elective IV		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16

Total Semester Hours: **129**

Cybersecurity Engineering, BSCBS

To obtain a Bachelor of Science degree in Cybersecurity Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics		
MA 172	CALCULUS B	4

MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Computer Science		
CS 214	INTRO DISCRETE STRUCTURE	3
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
Cybersecurity Engineering		
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
CPE 221	COMPUTER ORGANIZATION	3
CPE 323 & CPE 325	INTRO TO EMBEDDED COMPUTER SYS and EMBEDDED SYSTEMS LAB	4
CPE 348	INTRO TO COMPUTER NETWORKS	3
CPE 353 or CS 307	SOFTWARE DESIGN & ENGINEERING OBJECT ORIENT/PROG C++	3
CPE 434 & CPE 435	OPERATING SYSTEMS and OPERATING SYSTEMS LABORATORY	4
ISE 390	PROB & ENGR STATISTICS I	3
CPE 449	INTRO TO CYBERSECURITY ENGINRG	3
IS 450	CYBERSECURITY MANAGEMENT	3
CS 465	NETWORK SECURITY	3
CS 480	MOBILE DIGITAL FORENSICS	3
CPE 455	SECURE SOFTWARE DEVELOPMENT	3
CPE 457	SOFTWARE REVERSE ENGINEERING	3
CPE 459	SYSTEMS SECURITY	3
CPE 488	CYBERSECURITY ENG CAPSTONE I	3
CPE 498	CYBERSECY ENGR CAPSTONE II	3
Cybersecurity Engineering Electives		
Select 6 semester hours of 300-level or above CPE, EE, CS or other upper-level courses approved by Department		6
Total Semester Hours		124

- ¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)
- ² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- ³ For choices see the World Languages and Culture (p. 241) Department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
EGR 101	INTRO COMPUTING ENGINEERS	3
Science Requirement (CH 121 & CH 125 or BYS 119 & BYS 121)		4

EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17
Year 2		
Fall		
MA 201	CALCULUS C	4
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
EGR 299	ENGINEERING MENTORING I	0
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17
Spring		
MA 244	INTRO TO LINEAR ALGEBRA	3
CS 214	INTRO DISCRETE STRUCTURE	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
CPE 221	COMPUTER ORGANIZATION	3
EE 203	DIGITAL LOGIC DESIGN LAB	1
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16
Year 3		
Fall		
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
EGR 399	ENGINEERING MENTORING II	0
ISE 390	PROB ENGR STATISTICS I	3
CPE 323	INTRO TO EMBEDDED COMPUTER SYS	3
CPE 325	EMBEDDED SYSTEMS LAB	1
CPE 353	SOFTWARE DESIGN ENGINEERING	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		16
Spring		
CPE 348	INTRO TO COMPUTER NETWORKS	3
CPE 434	OPERATING SYSTEMS	3
CPE 435	OPERATING SYSTEMS LABORATORY	1
CPE 455	SECURE SOFTWARE DEVELOPMENT	3
CBS Elective I		3

HSBS/HFA See Charger 3
Foundations Areas II and IV

Term Semester Hours:		16
Year 4		
Fall		
CPE 449	INTRO TO CYBERSECURITY ENGINRG	3
IS 450	CYBERSECURITY MANAGEMENT	3
CS 465	NETWORK SECURITY	3
CPE 457	SOFTWARE REVERSE ENGINEERING	3
CPE 488	CYBERSECURITY ENG CAPSTONE I	3
Term Semester Hours:		15
Spring		
CS 480	MOBILE DIGITAL FORENSICS	3
CPE 459	SYSTEMS SECURITY	3
CPE 498	CYBERSECY ENGR CAPSTONE II	3
CBS Elective II		3
Term Semester Hours:		12
Total Semester Hours:		124

Electrical Engineering, BSEE

To obtain a Bachelor of Science degree in Electrical Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
Mathematics and Natural Sciences		12

Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Sciences		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
PH 113	GEN PHYSICS W/CALC III	3
PH 116	GENERAL PHYSICS LAB III	1
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Electrical Engineering		
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
EE 203	DIGITAL LOGIC DESIGN LAB	1
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
CPE 221	COMPUTER ORGANIZATION	3
EE 223	DES & MOD ELEC CIR & SYS	3
EE 307	ELECTRICITY & MAGNETISM	3
EE 308	ELECTROMAGNETIC ENGR ⁵	3
EE 310	SOLID STATE FUNDAMENTALS ⁵	3

EE 315	INTRO ELECTRONIC ANAL & DESIGN	3
EE 316	ELE CIRCUITS & ELTRNC DSGN LAB	1
ISE 321	ENGINEERING ECONOMY	3
CPE 323 & CPE 325	INTRO TO EMBEDDED COMPUTER SYS and EMBEDDED SYSTEMS LAB	4
EE 382	ANALY METH CONTINUOUS TIME SYS	3
EE 383	ANALY METH MULTIVARIABLE	3
EE 384	DIG SIGNAL PROCESS LAB	1
EE 385	RANDOM SIGNALS & NOISE	3
EE 386	INTRO CONTROL/ROBOTIC SYS ⁵	3
EE 494	EE DESIGN PROJECTS	3
Electrical Engineering Electives ⁴		
Select one ECE approved track (see approved list at CUE2 website):		6
Select 6 hours of 300-level or above EE or CPE courses approved by the ECE Dept (CPE 212 is also allowed)		6
Technical Elective		
Select 3 hours at the 200-level or above from the College of Science or Engineering (Note: ESS 210 is not allowed)		3
Total Semester Hours		129

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

⁴ For the Optics and Photonics Concentration, track elective courses must be OPT 341 and OPT 342; choose more electives from EE 416, EE 436, EE 453, or EE 454.

⁵ Must earn a C- or better in EE 308, EE 310 and EE 386

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1

Term Semester Hours:

15

Spring

MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours:

17

Year 2

Fall		
MA 201	CALCULUS C	4
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
EGR 299	ENGINEERING MENTORING I	0

EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 211 & 211L	INTRO COMPUTER PROG FOR ENGR and LABORATORY	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
Term Semester Hours:		17
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 113	GEN PHYSICS W/CALC III	3
PH 116	GENERAL PHYSICS LAB III	1
EE 203	DIGITAL LOGIC DESIGN LAB	1
CPE 221	COMPUTER ORGANIZATION	3
EE 223	DES MOD ELEC CIR SYS	3
Term Semester Hours:		17
Year 3		
Fall		
EGR 399	ENGINEERING MENTORING II	0
EE 307	ELECTRICITY MAGNETISM	3
EE 310	SOLID STATE FUNDAMENTALS	3
EE 315	INTRO ELECTRONIC ANAL DESIGN	3
CPE 323	INTRO TO EMBEDDED COMPUTER SYS	3
CPE 325	EMBEDDED SYSTEMS LAB	1
EE 382	ANALY METH CONTINUOUS TIME SYS	3
Term Semester Hours:		16
Spring		
EE 308	ELECTROMAGNETIC ENGR	3
EE 316	ELE CIRCUITS ELTRNC DSGN LAB	1
EE 383	ANALY METH MULTIVARIABLE	3
EE 385	RANDOM SIGNALS NOISE	3
EE 386	INTRO CONTROL/ROBOTIC SYS	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Year 4		
Fall		
ISE 321	ENGINEERING ECONOMY	3
EE Track Elective I		3
EE Elective		3
Technical Elective		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Spring		
EE 384	DIG SIGNAL PROCESS LAB	1
EE 494	EE DESIGN PROJECTS	3
EE Track Elective II		3
EE Elective		3
HSBS/HFA See Charger Foundations Areas II and IV		6
Term Semester Hours:		16
Total Semester Hours:		129

Engineering Clusters

Engineering clusters are offered by several College of Engineering programs. The request for a cluster is initiated with the non-engineering student's advisor. Students must meet any prerequisites for the courses in the cluster.

Industrial & Systems Engineering Cluster (21 Semester Hours)

Code	Title	Semester Hours
ISE 224	INTRO INDUSTRIAL & SYSTEMS	3
ISE 321	ENGINEERING ECONOMY	3
ISE 340	OPERATIONS RESEARCH	3
ISE 390	PROB & ENGR STATISTICS I	3
ISE 391	PROB/ENGR STAT II	3
ISE 423	INTR STATISTICAL QUALITY CONTR	3
ISE 430	MANUF SYS & FACILITIES DESIGN	3
Total Semester Hours		21

Mechanical Engineering Cluster (20 Semester Hours)

Code	Title	Semester Hours
EGR 101	INTRO COMPUTING ENGINEERS	3
MAE 211	INTRO COMPUTATIONAL TOOLS	2
MAE 271	STATICS	3
MAE 272	DYNAMICS	3
MAE 310	FLUID MECHANICS I	3
MAE 341	THERMODYNAMICS I	3
MAE 370	MECHANICS OF MATERIALS	3
Total Semester Hours		20

Electrical Systems Cluster (20 Semester Hours)

Code	Title	Semester Hours
EGR 101	INTRO COMPUTING ENGINEERS	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
EE 315	INTRO ELECTRONIC ANAL & DESIGN	3
EE 316	ELE CIRCUITS & ELTRNC DSGN LAB	1
EE 382	ANALY METH CONTINUOUS TIME SYS	3
EE 383	ANALY METH MULTIVARIABLE	3
EE 384	DIG SIGNAL PROCESS LAB	1
EE 386	INTRO CONTROL/ROBOTIC SYS	3
Total Semester Hours		20

Circuits/Digital Electronics Cluster (20 Semester Hours)

Code	Title	Semester Hours
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
EE 223	DES & MOD ELEC CIR & SYS	3
EE 310	SOLID STATE FUNDAMENTALS	3
EE 315	INTRO ELECTRONIC ANAL & DESIGN	3
EE 316	ELE CIRCUITS & ELTRNC DSGN LAB	1
EE 382	ANALY METH CONTINUOUS TIME SYS	3
EE 384	DIG SIGNAL PROCESS LAB	1

EE 436	DIGITAL ELECTRONICS	3
Total Semester Hours		20

Music Technology Cluster (23 Semester Hours)

Code	Title	Semester Hours
EGR 101	INTRO COMPUTING ENGINEERS	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
EE 223	DES & MOD ELEC CIR & SYS	3
EE 315	INTRO ELECTRONIC ANAL & DESIGN	3
EE 316	ELE CIRCUITS & ELTRNC DSGN LAB	1
EE 382	ANALY METH CONTINUOUS TIME SYS	3
EE 383	ANALY METH MULTIVARIABLE	3
EE 384	DIG SIGNAL PROCESS LAB	1
Total Semester Hours		23

Industrial and Systems Engineering and Engineering Management

N143 Technology Hall
 Telephone: 256.824.6256
 Email: ise@uah.edu (ise@uah.edu)
 Chair: Sampson Gholston, PhD

Industrial and Systems Engineering

Industrial & Systems Engineering is a branch of engineering dealing with the optimization of complex processes or systems. It is concerned with the development, improvement, implementation and evaluation of integrated systems of people, money, knowledge, information, equipment, energy, materials, analysis and synthesis, as well as the mathematical, physical, and social sciences together with the principles and methods of engineering design to specify, predict, and evaluate the results to be obtained from such systems or processes. Its underlying concepts overlap considerably with certain business-oriented disciplines such as operations management.

Depending on the sub-specialties involved, industrial engineering may also be known as, or overlap with, operations management, management science, operations research, systems engineering, manufacturing engineering, ergonomics or human factors engineering, safety engineering, or others, depending on the viewpoint or motives of the user. For example, in health care, the engineers known as health management engineers or health systems engineers are, in essence, industrial engineers by another name.

The Industrial and Systems Engineering Department offers the following degree program:

- Industrial and Systems Engineering, BSISE (p. 497)

Students may earn the BSISE degree with one of two tracks: Industrial Engineering and Systems Engineering.

Mission

To provide integrated, applications-oriented education and research programs in the areas of industrial engineering, systems engineering, and engineering management to support the needs of students and organizations in the Huntsville area and beyond.

ISE Program Educational Objectives

To realize the mission of the department, the following educational objectives have been adopted for the undergraduate program. These objectives cover the fundamentals of both engineering and the humanities that characterize a university education, plus the specialized knowledge of industrial and systems engineering needed for a successful career in industry, the government, or academia.

- Graduates will have utilized a foundation in the knowledge and skills of industrial and systems engineering to improve lives and advance professionally in positions of increasing responsibility within their chosen field.
- Graduates will have become effective collaborators and innovators, leading or participating in efforts to address social, technical, and business challenges.
- Graduates will have engaged in lifelong learning and professional development through self-study, continuing education, or graduate and professional studies.

Major in Industrial and Systems Engineering

- BSISE, Industrial Engineering Track (p. 493)
- BSISE, Systems Engineering Track (p. 497)

ISE 224 - INTRO INDUSTRIAL & SYSTEMS

Semester Hours: 3

Overview of industrial engineering concepts. Includes history and development of classical industrial engineering; documentation and computational methods; basic work methods and measurement; manufacturing systems; and economic decision analysis. Prerequisites: EGR 101.

ISE 299 - ISE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: ISE 224.

ISE 321 - ENGINEERING ECONOMY

Semester Hours: 3

Economic evaluation of engineering alternatives. Interest, time-value of investments, depreciation and income taxes, break-even cost analysis. Sophomore standing.

ISE 324 - WORK DESIGN

Semester Hours: 3

Principles of methods analysis and ergonomics to fit a task and workstation to the human operator including work measurement and tools, work sampling, job analysis, anthropometric data, and workplace design. Laboratory exercises focus on the implementation of lean principles. (Same as PY 324) Prerequisites: ISE 390 or PY 300.

ISE 327 - MANAGEMENT SYSTEMS ANALYSIS

Semester Hours: 3

Formal organization structures and functions. Analysis of organization planning leading toward the accomplishment of goals. Techniques for making decisions within formal organizations, together with ethical constraints. Emphasis on technical writing. Prerequisite: ISE 390.

ISE 328 - INTRO SYSTEMS ENGINEERING

Semester Hours: 3

Development of a systems framework for the design and realization of systems, with emphasis on the conception, design and management of systems in complex environments. Topics include systems concepts, requirements, architecture, evaluation, integration, trades, and object oriented methods and concepts.

ISE 340 - OPERATIONS RESEARCH

Semester Hours: 3

Fundamental methods, models and computational techniques of operations research. Linear programming including transportation, assignment of simplex algorithms. Queuing theory. Prerequisites: ISE 390 and MA 244.

ISE 390 - PROB & ENGR STATISTICS I

Semester Hours: 3

Engineering uses of probability, discrete and continuous probability distributions including the binomial, Poisson, hypergeometric, normal, uniform, lognormal, and exponential distributions. Statistical sampling, distributions of means, variances, and proportions. Hypothesis testing and confidence intervals. Prerequisite: MA 201.

ISE 391 - PROB/ENGR STAT II

Semester Hours: 3

Continuation of ISE 390 with regression analysis, analytics of variance, and nonparametric statistics. Introduction to design of engineering experiments, and computer-based solution of large-scale problems. Prerequisite: ISE 390.

ISE 399 - ISE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: ISE 299 and ISE 391.

ISE 402 - INDUSTRIAL & ORGANIZA PSY

Semester Hours: 3

Application of basic principles of learning, motivation, and perception to typical industrial and organizational problems. Senior standing. (Same as PY 402/502).

ISE 403 - HUMAN FACTORS PSYCHOLOGY

Semester Hours: 3

Study of human performance in human-technology-environment systems. Consideration of human capabilities and limitations as related to controls and displays, and the role of human cognition in decision-making and training effectiveness. Senior standing. (Same as PY 403/503).

ISE 421 - IMPROVING HEALTHCARE SYST

Semester Hours: 3

Overview of healthcare systems with emphasis on departments; functions and improving operational performance. Lean concepts and techniques are introduced as they specifically apply in a healthcare environment. Topics include workplace organization; patient and material flow; pull systems; value stream mapping; practical problem solving and root cause analysis. Multiple hands-on simulations and laboratory exercises are utilized to demonstrate the concepts.

ISE 422 - HEALTHCARE SYST ENGR

Semester Hours: 3

This course explores and introduces students to the systematic and quantitative analysis of healthcare systems. The purpose of this class is to increase the student's understanding of how to apply proven industrial and systems engineering methods to healthcare related problems. Potential topics include: healthcare, financing, health analytics, lean and six sigma as they relate to healthcare, reliability and patient safety, capacity management and healthcare logistics.

ISE 423 - INTR STATISTICAL QUALITY CONTR

Semester Hours: 3

Introduces statistical theory and techniques to control quality of manufacturing products. Provides a solid foundation in Statistical Quality Control. The Six Sigma methodology is also introduced in this course. Students can take the certification exam to earn Green Belt in Six Sigma. Prerequisite: ISE 391.

ISE 426 - DSGN & ANALY OF EXPERIM

Semester Hours: 3

Advanced topics in statistical experiments with emphasis on the design aspect. Factorial designs, including fractional replication and confounding. Includes computer laboratory exercises. (Same as ISE 526). Prerequisite: ISE 391.

ISE 428 - SYSTEMS ANALYSIS & DESIGN I

Semester Hours: 3

Philosophy and methods of industrial and non-industrial systems analysis and design. Methods of systems definition, analysis, simplification, evaluation, and optimization. Design project required. Ethics and technical writing are emphasized. Senior Standing. Prerequisites: ISE 124, ISE 321, ISE 340, ISE 391, and ISE 399 or EGR 399.

ISE 429 - SYS ANALYSIS/DESIGN II

Semester Hours: 3

Continuation of design project begun in ISE 428. Prerequisite: ISE 428.

ISE 430 - MANUF SYS & FACILITIES DESIGN

Semester Hours: 3

Modern manufacturing systems design with emphasis on facility location and plant layout. Includes classical systems, just-in-time systems, principles of integrated manufacturing systems design, and an analysis of process flow and productivity, and available space to determine facility layout. (Same as ISE 530) Prerequisites: ISE 324 or MAE 378.

ISE 433 - PROD & INVENTORY CONTROL SYS

Semester Hours: 3

Inventory models including classical optimal economic order quantity models, manufacturing resource planning systems, production scheduling, material requirements, and purchase order control. Emphasis on manufacturing system revisions, continuous process improvement, and implementation of lean principles. Prerequisite: ISE 390.

ISE 436 - INTRO TO ADDITIVE MFG

Semester Hours: 3

Overview course on additive manufacturing technologies, including 3D printing, prototyping, powder deposition, powder spraying, laminate materials manufacturing, ultrasonic consolidation, and other topics. Focus on design for manufacturing. Prerequisite: CE 211 or MAE 211.

ISE 437 - ELECTRONICS MANUF PROCESSES

Semester Hours: 3

Concepts, facilities, and technology utilized in the manufacture of electronic components and products. Includes printed wiring board fabrication and component mounting methods, automation, quality and reliability, product testing, and economic issues. Senior Standing. (Same as ISE 537).

ISE 439 - SELECTED TOPICS/ISE

Semester Hours: 1-3

ISE 447 - INTRO TO SYSTEMS SIMULATION

Semester Hours: 3

Philosophy and elements of digital, discrete-event simulation. Emphasis on modeling and analysis of stochastic systems, including probabilistic models, output analysis, and the use of simulation software. (Same as ISE 547) Prerequisites: CPE 112 and ISE 391.

ISE 480 - SYSTEMS ENGINEERING MODELING

Semester Hours: 3

The main goal of this course is to teach the student Model Based Systems Engineering (MBSE) fundamentals with application to real-world systems engineering problems. Students will learn (1) core systems engineering concepts and processes; (2) System Modeling Language (SysML) fundamentals and its use to develop and execute system models on a SysML based tool and (3) Architecture and physical model execution, simulation and integration.

BSISE, Industrial Engineering Track

To obtain a Bachelor of Science degree in Industrial and Systems Engineering, in the Industrial Engineering Track, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4

MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Select one of the following science electives:		
CH 123	GENERAL CHEMISTRY II	3
PH 113	GEN PHYSICS W/CALC III	3
BYS 119	PRINCIPLES OF BIOLOGY	3
Any 300 or 400 Mathematics		
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Industrial and Systems Engineering		
CE 211, MAE 211, or CPE 211		2-3
ISE 224	INTRO INDUSTRIAL & SYSTEMS	3
MAE 271	STATICS	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
ISE 321	ENGINEERING ECONOMY	3
ISE 324	WORK DESIGN	3
ISE 327	MANAGEMENT SYSTEMS ANALYSIS	3
ISE 340	OPERATIONS RESEARCH	3

MAE 341	THERMODYNAMICS I	3
MAE 370	MECHANICS OF MATERIALS	3
MAE 375	MECHANICS OF MATERIALS LAB	1
ISE 390	PROB & ENGR STATISTICS I	3
ISE 391	PROB/ENGR STAT II	3
ISE 428	SYSTEMS ANALYSIS & DESIGN I	3
ISE 429	SYS ANALYSIS/DESIGN II	3
ISE 447	INTRO TO SYSTEMS SIMULATION	3

Industrial Engineering Track

ISE 423	INTR STATISTICAL QUALITY CONTR	3
ISE 430	MANUF SYS & FACILITIES DESIGN	3
ISE 433	PROD & INVENTORY CONTROL SYS	3

ISE Electives

Choose a minimum of 3 hours from the following courses (or others approved by the ISE Faculty):

MA 385	INTRO TO PROBABILITY & STATIST	3
ISE 402	INDUSTRIAL & ORGANIZA PSY	3
ISE 328	INTRO SYSTEMS ENGINEERING	3
ISE 403	HUMAN FACTORS PSYCHOLOGY	3
ISE 426	DSGN & ANALY OF EXPERIM	3
ISE 480	SYSTEMS ENGINEERING MODELING	3

May select a maximum of 6 hours from the following:

EH 301	TECHNICAL WRITING	3
ACC 211	PRINC OF FINANCIAL ACCOUNTING	3
MKT 301	PRINCIPLES OF MARKETING	3
MGT 301	MANAGING ORGANIZATIONS	3
MGT 363	HUMAN RESOURCE & LABOR REL MGT	3
MGT 462	EMPLOYMENT LAW FOR MANAGERS	3

Technical Elective

200+ level Science/Engineering course approved by advisor	3
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Total Semester Hours **127-128**

- ¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)
- ² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- ³ For choices see the World Languages and Culture (p. 241) department.

Suggested Schedule for Full-Time Students**Year 1**

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3

HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17
Year 2		
Fall		
MA 201	CALCULUS C	4
PH 112	GEN PHYSICS W/CALC II	4
& PH 115	and GENERAL PHYSICS LAB II	
EGR 299	ENGINEERING MENTORING I	0
ISE 224	INTRO INDUSTRIAL SYSTEMS	3
ISE 321	ENGINEERING ECONOMY	3
ISE 390	PROB ENGR STATISTICS I	3
Term Semester Hours:		17
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
MAE 271	STATICS	3
ISE 391	PROB/ENGR STAT II	3
CE 211, MAE 211, or CPE		2-3
211 (Determined by Track)		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17-18
Year 3		
Fall		
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
ISE 340	OPERATIONS RESEARCH	3
MAE 341	THERMODYNAMICS I	3
MAE 370	MECHANICS OF MATERIALS	3
MAE 375	MECHANICS OF MATERIALS LAB	1
EGR 399	ENGINEERING MENTORING II	0
Technical Elective		3
Term Semester Hours:		16
Spring		
ISE 324	WORK DESIGN	3
ISE 327	MANAGEMENT SYSTEMS ANALYSIS	3
ISE 433	PROD INVENTORY CONTROL SYS	3
Science Elective		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		15
Year 4		
Fall		
ISE 428	SYSTEMS ANALYSIS DESIGN I	3
ISE 430	MANUF SYS FACILITIES DESIGN	3
ISE 447	INTRO TO SYSTEMS SIMULATION	3
ISE Elective		3
ISE Elective		3
Term Semester Hours:		15
Spring		
ISE 423	INTR STATISTICAL QUALITY CONTR	3

ISE 429	SYS ANALYSIS/DESIGN II	3
ISE Elective		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		15
Total Semester Hours:		127-128

BSISE, Systems Engineering Track

To obtain a Bachelor of Science degree in Industrial and Systems Engineering, in the Systems Engineering Track, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	

HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Select one of the following science electives:		
CH 123	GENERAL CHEMISTRY II	3
PH 113	GEN PHYSICS W/CALC III	3
BYS 119	PRINCIPLES OF BIOLOGY	3
Any 300 or 400 Mathematics		
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Industrial and Systems Engineering		
CE 211, MAE 211, or CPE 211		2-3
ISE 224	INTRO INDUSTRIAL & SYSTEMS	3
MAE 271	STATICS	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
ISE 321	ENGINEERING ECONOMY	3
ISE 324	WORK DESIGN	3
ISE 327	MANAGEMENT SYSTEMS ANALYSIS	3
ISE 340	OPERATIONS RESEARCH	3
MAE 341	THERMODYNAMICS I	3
MAE 370	MECHANICS OF MATERIALS	3
MAE 375	MECHANICS OF MATERIALS LAB	1
ISE 390	PROB & ENGR STATISTICS I	3
ISE 391	PROB/ENGR STAT II	3
ISE 428	SYSTEMS ANALYSIS & DESIGN I	3
ISE 429	SYS ANALYSIS/DESIGN II	3
ISE 447	INTRO TO SYSTEMS SIMULATION	3
Systems Engineering Track		

ISE 328	INTRO SYSTEMS ENGINEERING	3
ISE 426	DSGN & ANALY OF EXPERIM	3
ISE 480	SYSTEMS ENGINEERING MODELING	3
Select System Track Option/Courses		9
Aerospace Systems: MAE 200, MAE 272 and (MAE 330 & MAE 343)		
Mechanical Systems: MAE 272, MAE 284, MAE 364		
Computer Systems: EE 202, CPE 221, and CPE 348		
Control Systems: EE 382, EE 383, and EE 386		
Technical Elective		
200+ level Science/Engineering course approved by advisor.		3
Total Semester Hours		127-128

- ¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)
- ² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- ³ For choices see the World Languages and Culture (p. 241) department.

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		17

Year 2

Fall		
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
EGR 299	ENGINEERING MENTORING I	0
ISE 224	INTRO INDUSTRIAL SYSTEMS	3
ISE 321	ENGINEERING ECONOMY	3
ISE 390	PROB ENGR STATISTICS I	3
Term Semester Hours:		17
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
MAE 271	STATICS	3
ISE 391	PROB/ENGR STAT II	3
CE 211, MAE 211, or CPE 211 (Determined by Track)		2-3

HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17-18
Year 3		
Fall		
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
ISE 328	INTRO SYSTEMS ENGINEERING	3
ISE 340	OPERATIONS RESEARCH	3
MAE 341	THERMODYNAMICS I	3
MAE 370	MECHANICS OF MATERIALS	3
MAE 375	MECHANICS OF MATERIALS LAB	1
EGR 399	ENGINEERING MENTORING II	0
Term Semester Hours:		16
Spring		
ISE 324	WORK DESIGN	3
ISE 327	MANAGEMENT SYSTEMS ANALYSIS	3
ISE 480	SYSTEMS ENGINEERING MODELING	3
Science Elective		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		15
Year 4		
Fall		
ISE 428	SYSTEMS ANALYSIS DESIGN I	3
ISE 447	INTRO TO SYSTEMS SIMULATION	3
Systems Track Elective		3
Systems Track Elective		3
Technical Elective		3
Term Semester Hours:		15
Spring		
ISE 426	DSGN ANALY OF EXPERIM	3
ISE 429	SYS ANALYSIS/DESIGN II	3
Systems Track Elective		3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		15
Total Semester Hours:		127-128

Mechanical and Aerospace Engineering

N274 Technology Hall
 Telephone: 256.824.6154
 Email: mae@uah.edu (mae@uah.edu)
 Chair: D. Keith Hollingsworth, PhD

Associate Chair: Daniel Armentrout, PhD

Mechanical and Aerospace Programs

Aerospace Engineering is a diverse and rapidly changing field that consists of four fundamental technical disciplines: aerodynamics, structures and materials, propulsion, and flight mechanics and control. Aerospace engineers have traditionally applied their knowledge of these disciplines to the design and development of high performance flight systems such as aircraft, rotorcraft, spacecraft, missiles and rockets.

Mechanical Engineering applies the principles of physics and materials science for design, analysis and manufacturing of mechanical and thermal systems. Mechanical engineers use core concepts: mechanics, kinematics, thermodynamics, and fluid mechanics and tools: computer-aided design and modeling to design and build machines, weapons, medical devices, and robotics.

The Department of Mechanical and Aerospace Engineering offers the following degree programs:

- Bachelor of Science in Aerospace Engineering (p. 506)
- Bachelor of Science in Mechanical Engineering (p. 509)

Mission Statement

The mission of the Department of Mechanical and Aerospace Engineering is to provide undergraduate and graduate education, research, and public service in the mechanical and aerospace engineering disciplines and to support the mechanical and aerospace engineering needs of Huntsville, the State of Alabama, the region, our nation, and the international community.

Program Educational Objectives

Within three to five years of graduation, Aerospace and Mechanical Engineering graduates will have:

- attained successful careers and recognition as young leaders in industry and in the community;
- applied knowledge and critical thinking to create innovative solutions;
- established collaborative working relationships wherein they effectively communicate their ideas; and
- pursued continuous professional development and advanced-study opportunities.

Majors in Mechanical and Aerospace Engineering

- Aerospace Engineering, BSAE (p. 506)
- Mechanical Engineering, BSME (p. 509)

MAE 115 - INTRODUCTION TO MACHINING

Semester Hour: 1

Safety and familiarity with the machine shop environment, equipment, tools, and practices. Correlate student design with consequences of design choice. Basic turning, milling, welding, and sheet metal operations. Programming and operation of numerically controlled machines.

MAE 200 - PRINC AERONAUTICS & ASTRONAUTICS

Semester Hours: 3

Fundamental concepts of aerospace engineering including the history of flight, standard atmosphere, fluid and flow properties, lift and drag, propulsion, and structures; elementary aircraft performance, stability and control; basic astronautics and space environment; and aerospace vehicle design.

Prerequisites: PH 111, EGR 101, MA 172. Prerequisite with concurrency: MAE 211.

MAE 211 - INTRO COMPUTATIONAL TOOLS

Semester Hours: 2

Computer-aided design and solid modeling concepts including: model definition through constraints and dimensioning, and development of subassemblies and assemblies. Prerequisites: EGR 101 and MA 171.

MAE 271 - STATICS

Semester Hours: 3

Topics include: forces, resultant forces, moments, couples equivalent force systems, equilibrium, distributed loads, two force members, trusses, centroids, moments of inertia, shear and bending moment diagrams, static and kinematic friction. (Same as CE 271) Prerequisites: PH 111, and ENG 101 Prerequisites with Concurrency: MA 201.

MAE 272 - DYNAMICS

Semester Hours: 3

Kinematics and kinetics of a particle and of systems of particles with applications to central force motion, impact, relative motion, vibrations, and variable mass systems. Dynamics of rigid body in plan motion, relative motion in rotating coordinates, and gyroscopic motion. (Same as CS 362) Prerequisites: (CE 271 or MAE 271) and MA 201.

MAE 284 - NUMERICAL METHODS

Semester Hours: 3

Use computational tools to solve mathematical problems of engineering interest. Discussion and application of root finding and optimization techniques. Other topics include curve fitting, Gauss Elimination, LA decomposition, and Cholesky decomposition, numerical integration and numerical differentiation. Solving initial and boundary value problems. Course includes a lab experience using modern computational tools. Prerequisites: MA 244, EGR 101, MAE 211 and MA 238.

MAE 284L - NUMERICAL METHODS LAB

Semester Hours: 0

MAE 299 - MAE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: MAE 271.

MAE 310 - FLUID MECHANICS I

Semester Hours: 3

Fluid properties and fundamental principles governing fluid behavior. Fluid statics, basic equations in integral form and differential form, potential flow, dimensional analysis, and internal incompressible viscous flows. Prerequisites: (CE 271 or MAE 271) and MA 238.

MAE 311 - PRIN MEASUREMENT & INSTRUMEN

Semester Hours: 3

Instrumentation and techniques for measurement of mechanical phenomena. Calibration, standards, computerized data acquisition, error analysis, signal conditioning, dynamic response, and experimental design. Laboratory included. Prerequisites: EE 213 and MAE 284.

MAE 311L - PRINC MEASUREMENT & INSTR LAB

Semester Hours: 0

MAE 330 - FUNDAMENTALS AERODYNAMICS

Semester Hours: 3

Fundamentals of incompressible flow, conservation laws, potential flow, similarity, airfoil and finite wing lift and drag, thin airfoil and panel methods, introduction to viscous flows and boundary layers, and modern airfoil and wing design. Prerequisites: MAE 200, MAE 272 and MA 238 (all with minimum grade of C-). Corequisite: MAE 331.

MAE 330L - LABORATORY

Semester Hours: 0

This lab is a 0 credit lab component of the 4 credit MAE 330 course.

MAE 331 - AERODYNAMICS LAB

Semester Hour: 1

Demonstration of fundamental aerodynamic principles through wind tunnel testing including comparison of theory to experimental results. Corequisite: MAE 330.

MAE 341 - THERMODYNAMICS I

Semester Hours: 3

Basic laws of energy that apply in all branches of engineering and science. Properties of matter, state variables, reversible processes, first and second laws of thermodynamics with applications to closed and open systems. Availability of energy and irreversibility. Prerequisites: CH 121, PH 112, and MA 201.

MAE 342 - THERMODYNAMICS II

Semester Hours: 3

Continuation of MAE 341. Thermodynamic cycles, thermodynamic relations among properties, chemical reactions, and phase and chemical equilibrium. Prerequisites: MAE 341 and MA 238.

MAE 343 - COMPRESSIBLE AERODYNAMICS

Semester Hours: 3

Compressible flow including area change, friction, and heat transfer. Fundamentals of acoustic waves, 1- and 2-D shock and expansion waves, shock-expansion theory, and linearized flow with applications to inlets, nozzles, wind tunnels, and supersonic flow over aerodynamic bodies and wings. Prerequisites: MAE 200, MAE 341 and MA 238 (all with minimum grade of C-).

MAE 345 - HONORS THERMODYNAMICS COLQ

Semester Hour: 1

Students in this course will be expected to participate in assigned readings and discussions to develop an understanding of the context behind the fundamental concepts and principles of thermodynamics. Through reflections students will be encouraged to apply this knowledge to develop their own creative ideas. Prerequisites with concurrency: MAE 341 or CHE 344.

MAE 364 - KINEMATICS/DYNAM MACHINE

Semester Hours: 3

Kinematics and dynamics of planar machinery including principles of mechanisms, cam design, gears and epicycle gear trains, determination of velocity and acceleration in mechanisms. Inertia forces in machines, balancing of rotating masses and reciprocating masses, and vibration analysis. Prerequisites: MAE 211 and (MAE 272 or CE 272).

MAE 364L - KINEMATICS/DYN MACHINE LAB

Semester Hours: 0

MAE 370 - MECHANICS OF MATERIALS

Semester Hours: 3

Design and analysis of simple structures for predetermined strength and deformation requirements. Topics include: theory of stress-strain, Hooke's Law, analysis of stresses and deformations in bodies loaded by axial, torsional, bending, and combined loads, and analysis of statically indeterminate systems. Same as MAE 370. Prerequisites: (CPE 211 or MAE 211) and (MAE 271 or CE 271) and MA 244, corequisite MAE 375.

MAE 370L - LABORATORY

Semester Hours: 0

MAE 371 - AEROSPACE STRUCTURES

Semester Hours: 3

Analysis and design of lightweight aerospace structures including sandwich structures, stiffened panels, and tubing stress and deflection analysis. Design of members in tension, torsion, and bending. Space structures. Prerequisites: MAE 200 and (MAE 370 or CE 370).

MAE 375 - MECHANICS OF MATERIALS LAB

Semester Hour: 1

Experimental verification of material properties and structural deformation under axial, torsional, and bending loads. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. (Same as CE 375). Corequisites: MAE 370.

MAE 378 - MATERIALS & MFG PROCESS

Semester Hours: 3

Engineering properties of materials, sources of information for properties of materials, cost considerations for material selection, manufacturing processes, casting, forming, machining, cost considerations for machining operations. One or more field trips included. (Same as ISE 378). Prerequisites: MAE 370 or CE 370.

MAE 395 - SEL TOPICS:MECH & AEROSPACE EG

Semester Hours: 1-3

Special topics in Mechanical or Aerospace Engineering.

MAE 399 - MAE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: MAE 299 and MAE 272.

MAE 425 - DESIGN OF MACHINE ELEMENTS/A&M

Semester Hours: 3

MAE 440 - ROCKET PROPULSION I

Semester Hours: 3

Introduction to the operation, analysis, and design of liquid and solid rockets. Incorporates design and realization of a thermal system, in which students work in teams to design a rocket motor or component. Prerequisite: MAE 343.

MAE 441 - AIRBREATHING PROPULSION

Semester Hours: 3

Air breathing propulsion systems with emphasis on gas turbine engines for air-and rotor-craft. Includes thermodynamic power cycles, components design, and engine performance analysis. Incorporates a turbine engine design and realization team project. Prerequisite: MAE 343.

MAE 444 - INTRO TO ELECTRIC PROPULSION

Semester Hours: 3

Elements of electrically-driven rocket propulsion for applications from low earth orbit to the outer planets will be discussed. The physics of ionizing and heating gases and plasmas for electrothermal, electrostatic and electromagnetic acceleration will be studied. Characteristics of Resistojet, Arcjet, Magnetoplasmadynamic thrusters, Electrothermal, Pulsed plasma, Electrostatic, and Hall thrusters will be covered. Review thruster system performance, power requirements and selection for space missions. Overview of current research efforts, including thruster systems, physics, and performance. Prerequisite: MAE 420.

MAE 449 - AEROSPACE LABORATORY

Semester Hours: 2

Experimental investigation of aerospace structures, airfoils and bodies in subsonic flow, and performance of various aerospace propulsion systems. An experiment design project is included. Concurrent registration in MAE 449L is required.

MAE 450 - INTRO TO HEAT & MASS TRANSFER

Semester Hours: 3

Principles of heat and mass transfer; application of principles to problems in conductive, convective, and radioactive heat transfer and mass transfer; laminar and turbulent flow processes; boiling and condensation; heat exchangers. Prerequisites: MAE 283, MAE 311, MAE 341 and (MAE 310 or MAE 330). Corequisite: MAE 451.

MAE 450L - INTRO HEAT & MASS TRANSFER LAB

Semester Hours: 0

MAE 451 - HEAT & MASS TRANSFER LAB

Semester Hour: 1

Experimental measurements and analysis of heat and mass transfer mechanisms, processes and systems. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. Corequisite: MAE 450.

MAE 455 - DESIGN OF THERMAL SYSTEMS

Semester Hours: 3

Heat transfer, thermodynamics, and fluid mechanics applied to analysis and design of systems for storage and transport, and exchange of thermal energy. Modeling of thermal equipment, simulation of system performance, optimization of system design, and comprehensive design of thermal systems. Prerequisites: MAE 342 and MAE 450.

MAE 461 - VIBRATIONS ELASTIC SYS

Semester Hours: 3

Formulation of the equations of motion of discrete and continuous systems, analytical and numerical methods of solution, eigenvalue problems and dynamic response. Prerequisite: MAE 488.

MAE 463 - INTERMEDIATE DYNAMICS

Semester Hours: 3

Kinematics and dynamics of particles, system of particles, and rigid-bodies. Variational principles and Lagrangian mechanics. Prerequisites: MAE 272 and MAE 488.

MAE 466 - MECH & DSGN MACH ELEMENT

Semester Hours: 3

Detailed design and selection of machine elements such as gears, shafts, and bearings. Analysis of stresses and deformations under combined static and dynamic loads, stress concentrations, and fatigue. Prerequisites: MAE 364 and (MAE 370 or CE 370).

MAE 468 - ELEMENTS OF SPACECRAFT DESIGN

Semester Hours: 3

Fundamentals of spacecraft engineering and design. Topics include: orbital mechanics, space environment, attitude determination and control, communications, space structures, thermal control, propulsion and power, and systems and mission design. Prerequisites: MAE 371 and (MAE 272 or CE 272).

MAE 471 - ADV AEROSPACE STR & MTRLS

Semester Hours: 3

Composite materials and applications in aerospace structures including: material types and properties and fabrication techniques, micromechanics, constitutive behavior, and classical laminated plate theory. Introduction to failure concepts, sandwich panels and finite element modeling of 1- and 2-D aerospace structures. Prerequisites: MAE 311 and MAE 371.

MAE 474 - APP MECHANICS OF SOLIDS

Semester Hours: 3

Stresses and strains at a point, theories of failures, stress concentration factors, thick-walled cylinders, torsion of noncircular members, curved beams, unsymmetrical bending, and shear center. Prerequisites: MAE 370 or CE 370.

MAE 477 - EXP TECH SOLID MECHANICS

Semester Hours: 3

Experimental methods to determine stress, strain, displacement, velocity, and acceleration in various media. Theory and laboratory applications of electrical resistance strain gauges, brittle coatings, and photo elasticity. Application of transducers and experimental analysis of engineering systems. Prerequisites: MAE 370 or CE 370.

MAE 480 - AIRCRAFT STABILITY & CONTROL

Semester Hours: 3

The stability and control of aerodynamic vehicles. The design of aircraft to obtain good flying characteristics. The complete governing equations and analog solutions of linearized equations. Prerequisites: MAE 430 and MAE 488.

MAE 488 - ANALY ENGINEERING SYSTEM

Semester Hours: 3

Development of mathematical engineering models of physical systems including: mechanical, electrical, and fluid systems and combined systems. Determination of the dynamic response of physical systems. Prerequisites: EE 213, MAE 284 and (MAE 272 or CE 272).

MAE 489 - COMPUTER AIDED ENGR

Semester Hours: 3

Analysis of design of structural, thermal, and dynamical systems using finite element and finite difference computer programs. Practical guidelines for discrete modeling; analysis of modeling errors. Comparison of exact and approximate solutions to boundary value problems. Prerequisites: MAE 370 or CE 370 and MAE 284 concurrently.

MAE 490 - SENIOR DESIGN I

Semester Hours: 3

Application of basic design principles including: design methodology, decision making, creativity, product liability, human factors, patents, ethics, and technical writing. Students will be assigned to a multi-disciplinary teams to develop design project requirements and initial concepts. Prerequisites: ISE 321, MAE 311, MAE 341, MAE 375 and (MAE 399 or EGR 399) and [(MAE 364, MAE 378, MAE 310) or (MAE 330, MAE 331, MAE 343, MAE 371)].

MAE 491 - SENIOR DESIGN II

Semester Hours: 3

Continuation of MAE 490. Students work on multi-disciplinary teams to design, fabricate, test and demonstrate the performance of various mechanisms, products and vehicles according to customer requirements. Oral presentations and written detailed documentation of the project must also be completed. Prerequisite: MAE 490.

MAE 492 - MISSION DESIGN & DEVELOPMNT

Semester Hours: 3

Senior Capstone Course Option. Students work design teams to develop missions of interest to NASA, DoD and industry. Includes defining the mission architecture and associated vehicles and components required to meet the customer requirements. Prerequisites: MAE 490.

MAE 493 - ROCKET DESIGN

Semester Hours: 3

Senior Capstone Course Option. Design, build, test and fly a high-powered rocket with a payload to a specified altitude. Students work on multi-disciplinary teams to design payloads, avionics, recovery systems, structures and other sub-systems and then integrate them into the final vehicle. Prerequisites: MAE 490.

MAE 494 - AIRCRAFT DESIGN

Semester Hours: 3

Senior Capstone Course Option. Design, build, and test an unmanned aircraft to meet specified requirements. Students work on multi-disciplinary teams. Systems engineering aspects including simulation, fabrication, integration, scheduling and cost estimation are also emphasized. Prerequisite: MAE 490.

MAE 495 - SEL TOPICS:MECH & AEROSPACE EG

Semester Hours: 1-4

MAE 496 - IND STUDY:MECH & AEROSPACE EG

Semester Hours: 1-4

Special independent project in a topic of Mechanical or Aerospace Engineering. Must work with a MAE faculty member with project approved by MAE department chair.

MAE 499 - UNDERGRADUATE THESIS

Semester Hours: 3

Required for students completing an Honors Program Bachelors Thesis. Senior standing and permission of thesis advisor required.

Aerospace Engineering, BSAE

To obtain a Bachelor of Science degree in Aerospace Engineering, students are required to complete the general education requirements for engineering majors and the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	

HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	

Code	Title	Semester Hours
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Additional Mathematics and Science

MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Select one of the following science electives:		3-4
CH 123	GENERAL CHEMISTRY II	
PH 113	GEN PHYSICS W/CALC III	
BYS 119	PRINCIPLES OF BIOLOGY	
Any 300 or 400 level Mathematics course		

Engineering

FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0

Aerospace Engineering

MAE 200	PRINC AERONAUTICS & ASTRONAUTI	3
MAE 211	INTRO COMPUTATIONAL TOOLS	2
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
MAE 271	STATICS	3
MAE 272	DYNAMICS	3
MAE 284 & 284L	NUMERICAL METHODS and NUMERICAL METHODS LAB	3
ISE 321	ENGINEERING ECONOMY	3
MAE 311	PRIN MEASUREMENT & INSTRUMEN	3
MAE 330 & MAE 331	FUNDAMENTALS AERODYNAMICS and AERODYNAMICS LAB	4
MAE 341	THERMODYNAMICS I	3
MAE 343	COMPRESSIBLE AERODYNAMICS	3
MAE 370 & MAE 375	MECHANICS OF MATERIALS and MECHANICS OF MATERIALS LAB	4
MAE 371	AEROSPACE STRUCTURES	3
MAE 440	ROCKET PROPULSION I (or)	3

or MAE 441	AIRBREATHING PROPULSION	
MAE 468	ELEMENTS OF SPACECRAFT DESIGN	3
MAE 471	ADV AEROSPACE STR & MTRLS	3
MAE 480	AIRCRAFT STABILITY & CONTROL	3
MAE 488	ANALY ENGINEERING SYSTEM	3
MAE 490	SENIOR DESIGN I	3
MAE 491	SENIOR DESIGN II	3

Aerospace Technical Electives

Select 6 semester hours from the MAE Approved Technical Electives List ⁴	6
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AE students may not take both MA 385 and ISE 390 for Technical Elective credit. AE students may not take MAE 310 for credit.

Total Semester Hours	128
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¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)

² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Culture (p. 241) department.

⁴ See approved list of MAE technical electives here (<https://www.uah.edu/eng/departments/undergraduate-engineering/cuee-current-students/students/>)

Suggested Pathway for Aerospace Engineering

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
Term Semester Hours:		15
Spring		
MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger		3
Foundations Areas II and IV		
HSBS/HFA See Charger		3
Foundations Areas II and IV		
Term Semester Hours:		17

Year 2

Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
MAE 271	STATICS	3
MAE 211	INTRO COMPUTATIONAL TOOLS	2
EGR 299	ENGINEERING MENTORING I	0
Term Semester Hours:		16
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MAE 272	DYNAMICS	3

MAE 284 & 284L	NUMERICAL METHODS and NUMERICAL METHODS LAB	3
MAE 370 & MAE 375	MECHANICS OF MATERIALS and MECHANICS OF MATERIALS LAB	4
MAE 200	PRINC AERONAUTICS ASTRONAUTI	3
Term Semester Hours:		16
Year 3		
Fall		
MAE 341	THERMODYNAMICS I	3
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
MAE 330 & MAE 331	FUNDAMENTALS AERODYNAMICS and AERODYNAMICS LAB	4
MAE 371	AEROSPACE STRUCTURES	3
EGR 399	ENGINEERING MENTORING II	0
Science Elective		3
Term Semester Hours:		16
Spring		
MAE 343	COMPRESSIBLE AERODYNAMICS	3
MAE 311 & 311L	PRIN MEASUREMENT & INSTRUMEN and PRINC MEASUREMENT & INSTR LAB	3
ISE 321	ENGINEERING ECONOMY	3
MAE 488	ANALY ENGINEERING SYSTEM	3
HSBS/HFA See Charger Foundations Areas II and IV		6
Term Semester Hours:		18
Year 4		
Fall		
MAE 490	SENIOR DESIGN I	3
MAE 480	AIRCRAFT STABILITY CONTROL	3
MAE 440 or MAE 441	ROCKET PROPULSION I or AIRBREATHING PROPULSION	3
Technical Elective		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Spring		
MAE 468	ELEMENTS OF SPACECRAFT DESIGN	3
MAE 471	ADV AEROSPACE STR MTRLs	3
MAE 491	SENIOR DESIGN II	3
Technical Elective		3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Total Semester Hours:		128

Mechanical Engineering, BSME

To obtain a Bachelor of Science degree in Mechanical Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	

Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	

Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Select one of the following electives:		3-4
BYS 119	PRINCIPLES OF BIOLOGY	
CH 123	GENERAL CHEMISTRY II	
PH 113	GEN PHYSICS W/CALC III	
Any 300 or 400 level Mathematics course		
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Mechanical Engineering		
MAE 211	INTRO COMPUTATIONAL TOOLS	2
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
MAE 271	STATICS	3
MAE 272	DYNAMICS	3
MAE 284 & 284L	NUMERICAL METHODS and NUMERICAL METHODS LAB	3
MAE 310	FLUID MECHANICS I	3
MAE 311 & 311L	PRIN MEASUREMENT & INSTRUMEN and PRINC MEASUREMENT & INSTR LAB	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
MAE 342	THERMODYNAMICS II	3
MAE 364 & 364L	KINEMATICS/DYNAM MACHINE and KINEMATICS/DYN MACHINE LAB	3
MAE 370 & MAE 375	MECHANICS OF MATERIALS and MECHANICS OF MATERIALS LAB	4
MAE 378	MATERIALS & MFG PROCESS	3
MAE 450	INTRO TO HEAT & MASS TRANSFER	3
MAE 451	HEAT & MASS TRANSFER LAB	1
MAE 455	DESIGN OF THERMAL SYSTEMS	3
MAE 466	MECH & DSGN MACH ELEMENT	3
MAE 488	ANALY ENGINEERING SYSTEM	3
MAE 489	COMPUTER AIDED ENGR	3
MAE 490	SENIOR DESIGN I	3
MAE 491	SENIOR DESIGN II	3
Mechanical Engineering Technical Electives		
Select 6 semester hours from the MAE Approved Technical Electives List ⁴		6
ME students may not take both MA 385 AND ISE 390 for Technical Elective credit. ME students may not take MAE 330/331 for credit.		
Total Semester Hours		128

¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222).

² Based on Math placement, prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

³ For choices see the World Languages and Cultures department.

⁴ See MAE Technical Electives List here (<https://www.uah.edu/eng/departments/undergraduate-engineering/cuee-current-students/students/>)

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1

Term Semester Hours: **15**

Spring

MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: **17**

Year 2

Fall		
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
MAE 211	INTRO COMPUTATIONAL TOOLS	2
MAE 271	STATICS	3
EGR 299	ENGINEERING MENTORING I	0

Term Semester Hours: **16**

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
MAE 272	DYNAMICS	3
MAE 284 & 284L	NUMERICAL METHODS and NUMERICAL METHODS LAB	3
ISE 321	ENGINEERING ECONOMY	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Science Elective		3

Term Semester Hours: **18**

Year 3

Fall		
EE 213	ELECTRICAL CIRCUIT ANALYSIS I	3
MAE 310	FLUID MECHANICS I	3
MAE 341	THERMODYNAMICS I	3
MAE 370 & MAE 375	MECHANICS OF MATERIALS and MECHANICS OF MATERIALS LAB	4
EGR 399	ENGINEERING MENTORING II	0
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: **16**

Spring

MAE 311 & 311L	PRIN MEASUREMENT & INSTRUMEN and PRINC MEASUREMENT & INSTR LAB	3
MAE 342	THERMODYNAMICS II	3
MAE 364 & 364L	KINEMATICS/DYNAM MACHINE and KINEMATICS/DYN MACHINE LAB	3
MAE 378	MATERIALS MFG PROCESS	3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours:	15
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Year 4**Fall**

MAE 450	INTRO TO HEAT MASS TRANSFER	3
MAE 451	HEAT MASS TRANSFER LAB	1
MAE 466	MECH DSGN MACH ELEMENT	3
MAE 489	COMPUTER AIDED ENGR	3
MAE 490	SENIOR DESIGN I	3
Technical Elective		3

Term Semester Hours:	16
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Spring

MAE 455	DESIGN OF THERMAL SYSTEMS	3
MAE 488	ANALY ENGINEERING SYSTEM	3
MAE 491	SENIOR DESIGN II	3
Technical Elective		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours:	15
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Total Semester Hours:	128
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Honors College

Dr. William S. Wilkerson, Dean
 104 Frank Franz Hall
 Telephone: 256.824.6450
[uah.edu/honors](http://www.uah.edu/honors/) (<http://www.uah.edu/honors/>)

The Honors College at the University of Alabama in Huntsville provides academically talented undergraduate students with an elite college experience at a large research university. It offers enriched coursework, research opportunities, and a community of like-minded students.

The Honors College serves students in all the colleges. While students are encouraged to join the Honors College at the beginning of their freshman year to gain full advantage of its benefits and enhanced curriculum, the College welcomes qualified current UAH or transfer students. All interested students must apply through the Honors College website: [uah.edu/honors](http://www.uah.edu/honors/) (<http://www.uah.edu/honors/>). Minimum requirements are a 28 ACT and a 3.5 high school GPA. Due to the COVID-19 pandemic, Honors is implementing a test-optional policy for Honors admission for the 2022-23 admission cycle. We will still consider test scores if submitted, but we want to stress that test scores are not required for admission into Honors this year. In special cases, because of the holistic review of the application, students who fall below the minimum GPA standards may be accepted. Current and transfer students must have a college GPA of 3.25 or higher and must complete the full application.

The Honors College grants either an Honors Diploma or an Honors Certificate, depending on the number of Honors Credits earned. The Diploma and the Certificate are in the student's chosen field or fields and appear on both the physical Diploma and the official transcript. The Honors Diploma or the Certificate add little extra coursework to the degree: both are mostly accomplished by taking Honors sections of courses students would already take. Please see the tabs above for more information about the requirements for the Diploma and the Certificate.

Whether students seek the Honors Diploma or the Certificate, they must complete an Honors Capstone Project or Thesis. This is independent work students typically do in their major field. It is done under close faculty supervision, and it can be either a traditional research thesis or a project, such as a computer application, an art installation, or a collection of stories. More information about the Capstone can be found at [uah.edu/honors](http://www.uah.edu/honors/) (<http://www.uah.edu/honors/>).

Honors courses come in three kinds:

1. Self-standing Honors Sections, which replace courses students would already take. These are smaller, more intensive, but not more work. They are designated with an "H" section number ("PHL 101-H1" vs. "PHL 101-01").
2. Honors contract courses: any 300+ course can be made an Honors course if the instructor and the student agree on a way to enrich the course and obtain the Honors Dean's signature on the contract. The electronic forms for this contract can be found on the Honors College website.
3. Courses offered by the Honors College. These can be special, interdisciplinary seminars, such as "The Art of Writing Science" or "Poverty in the U.S.," or they can take the form of the Honors Internship or Honors Capstone course. See the tab above to see Honors offerings for this academic year.

Honors Diploma Requirements

The following summarizes the requirements for receiving the Honors Diploma. For college specific information, refer to the Honors Advising webpage or the Honors Student Handbook at uah.edu/honors (<http://uah.edu/honors/>).

- **First-time freshmen pursue the Honors Diploma**
- **24 or more semester hours of Honors course credit**
- **Satisfactory completion of the Honors Capstone Project or Thesis**
- **An overall 3.25 GPA at graduation**
- **Required courses:**
 - EH 105: Honors English Seminar - 3 semester hours
 - HON 101: Intro to Honors Research
 - 300/400 level Honors courses – 9 semester hours (including Capstone course)
 - Honors Capstone Thesis/Project course - 3 semester hours in HON or your department
- Remaining Honors courses may come in the following categories:
 - Honors sections of regular courses (ex: PHL 101)
 - Specially designed courses just for Honors (ex: EH 105 EH 105, HON 101 HON 101, MAE 345)
 - Honors lab sections including lecture credit (ex: BYS 119/BYS 121)
 - Honors Special Seminars
 - Honors Contracts
 - Honors Internships
 - Graduate courses (JUMP)
 - Study Abroad courses

For more information on Honors courses, see the Honors College Handbook (https://www.uah.edu/images/administrative/Honors/Information/honors_college_handbook_2017-2018.pdf).

Honors Certificate Requirements

Students who want to participate in the Honors College but who may not be able to complete the entire 24 honors credit hour requirement have the choice to pursue the Honors Certificate of Completion of Upper-Level Requirements. Please talk to the Honors College Office first; you may still be able to complete the full Honors Diploma. Requirements for the Certificate are as follows:

- **12-23 semester hours of Honors courses**
- **Satisfactory completion of the Honors Capstone Project or Thesis**
- **An overall 3.25 GPA at graduation**
- **Additional requirements involve:**
 - 6 hours from any 300 or 400 level course (including Capstone course)

For more information on Honors courses, please see the Honors College Handbook (https://www.uah.edu/images/administrative/Honors/Information/honors_college_handbook_2017-2018.pdf).

Honors Courses

HON 101 - INTRO TO HONORS RESEARCH

Semester Hour: 1

Introduction to research methods and information literacy for new Honors Students. Helps students transition to research and coursework commensurate with Honors College standards.

HON 201 - SCHOLARSHIPS GRAD SCHOOL

Semester Hour: 1

Assist select Honors Students to prepare and apply for prestigious national scholarships and top graduate programs.

HON 301 - HONORS SPECIAL SEMINAR

Semester Hours: 1-2

Intensive, discussion-based, interdisciplinary exploration of contemporary topics in the sciences, social sciences, humanities, and engineering. Topics will be decided by instructors and will vary by term. May be team taught. Open only to Honors Students.

HON 399 - HONORS INTERDISCIPLINARY SEM

Semester Hours: 3

Interdisciplinary study of a selected topic. The seminar will facilitate serious appraisal of an issue that crosses disciplinary boundaries and that can be explored using different scholarly methodologies. Prerequisites: Admission to the Honors College.

HON 400 - HONORS INTERNSHIP

Semester Hours: 1-6

Active involvement in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student's course of study. The outside entity must identify a mentor who will keep regular contact with the student. Requires the student to maintain a log of activities and produce a semester-end report. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Approval of the Honors College Dean. Prerequisites: Admission to the Honors College.

HON 401 - HON ENGINEERING CAPSTONE

Semester Hour: 1

Course provides support and mentoring for Honors Students wishing to use their Engineering Senior Design course to complete their Honors Capstone.

HON 499 - HONORS THESIS

Semester Hours: 1-3

Individual research under direction of a faculty advisor. May be taken for up to 6 semester hours of credit. Prerequisites: Admission to the Honors College.

Honors Sections are offered in the following courses:**AES 103L - LABORATORY**

Semester Hours: 0

Laboratory instruction in support of material covered in AES 103.

ARS 160 - DRAWING: FOUNDATIONS

Semester Hours: 3

Introduction to principles, materials, and techniques of drawing. Observational drawing and exercises teach students visual skills and introduce aesthetics and artistic expression. Class covers visual and manual skills, problem solving, critical thinking, and the tools and materials artists use.

BYS 121 - LABORATORY

Semester Hour: 1

Laboratory exercised to introduce students to accurate measurement techniques, observation, and the development of relevant hypotheses. Several formal lab reports are required as an introduction to scientific writing. Prerequisite w/ concurrency: BYS 119.

BYS 499 - UNGRAD HONORS RES & THESIS

Semester Hours: 2-4

Individual investigations into biological problems under direct supervision of instructor. For honors students majoring in the biological sciences. Prerequisites: Approval of instructor, chair, and director of honors program; senior standing.

CH 125 - GENERAL CHEMISTRY LAB I

Semester Hour: 1

Complements the lecture material for CH 121. Includes the determination of chemical and physical properties of materials, synthesis and characterization, and introduction to spectroscopy. Prerequisite with concurrency: CH 121 or CH 121M.

CM 113 - Intro to Rhetorical Communication

Semester Hours: 3

Develops public speaking skills through an examination of rhetorical theory, training, and practice. Includes informative, persuasive, and other forms of speeches to prepare students for oral presentations in college and post-college ("real world") settings.

ECN 142 - PRINC OF MACROECONOMICS

Semester Hours: 3

How does our economy function? Why do we have periods of unemployment and inflation and what can we do about it? Economics is a way of thinking about the world, how to identify and focus on fundamental issues so we can understand our economy and how monetary and fiscal policy affects our lives. Prerequisite: any 100 level or 200 level MA course.

ECN 143 - PRINC OF MICROECONOMICS

Semester Hours: 3

How do markets coordinate our unlimited wants with our limited capacity to produce? We study producer and consumer choice in a variety of market structures, the social welfare implications inherent in market systems, and policies designed to correct those market failures. Prerequisite: Any 100 level or 200 level MA course.

EE 213 - ELECTRICAL CIRCUIT ANALYSIS I

Semester Hours: 3

Basic concepts of DC and AC circuit theory and analysis. Includes both DC and AC power. Prerequisites: MA 201 and PH 112 both w/concurrency.

EH 105 - HONORS ENGLISH SEMINAR

Semester Hours: 3

Interpretive and comparative readings in texts of enduring intellectual, esthetic, and ethical importance; critical and analytic writing and research projects. Grading Scale: A, B, C, D, F. Minimum grade of C- required to advance to 200-level English classes. Prerequisites: Formal admission to the University Honors College.

EH 207 - READINGS LITERATURE/CULTURE I

Semester Hours: 3

Critical analysis of texts from ancient times through the Age of Discovery. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 208 - READINGS LITERATURE/CULTURE 2

Semester Hours: 3

Critical analysis of texts from the Age of Discovery through the present. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 301 - TECHNICAL WRITING

Semester Hours: 3

Practical writing, especially technical or scientific reports and proposals, with emphasis on organization, research, and presentation. Qualifies as elective in English major. Does not count toward English minor except Cognate Studies in Technical Writing. Prerequisite: junior standing and EH 102 or EH 103 or EH 105.

ENG 101 - INTRO COMPUTING ENGINEERS

Semester Hours: 3

Introduces students to the fundamental principles of programming for solving engineering problems. It familiarizes students with the process of computational thinking and the translation of real-life engineering to computational problems. Languages may include Matlab, Python, and others as appropriate. Prerequisites: MA 113 w/concurrency or Math placement level 2000.

HY 103 - WORLD HISTORY TO 1500

Semester Hours: 3

Explore the historical development of peoples and cultures from their beginnings to 1500. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas and Oceania.

HY 104 - WORLD HISTORY SINCE 1500

Semester Hours: 3

Explore global interdependence from the period of transoceanic exploration to the present. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas, and Oceania.

MA 171 - CALCULUS A

Semester Hours: 4

Limits, derivatives, applications of the derivative, definite and indefinite integrals, exponential and logarithmic functions, and inverse functions. Prerequisites: MA 113 or MA 115 with a grade of C or better, or Level 3 placement.

MA 172 - CALCULUS B

Semester Hours: 4

Techniques of integration, applications of the integral, polar coordinates, sequences, series, and conic sections. Prerequisites: MA 171 with a grade of C or better.

MA 201 - CALCULUS C

Semester Hours: 4

Vectors, vector-valued functions, partial derivatives, multiple integrals, vector fields, line and surface integrals. Prerequisites: MA 172 with a grade of C or better.

MA 238 - APPL DIFFERENTIAL EQUATIONS

Semester Hours: 3

This course provides an elementary introduction to the techniques and necessary theory for solving the basic differential equations usually encountered by beginning science and engineering students. General topics include analytical and graphical methods for solving and analyzing first order differential equations; Euler's numerical method; the basic theory of higher-order, linear differential equations, with major emphasis on equations with constant coefficients; variation of parameters; the Laplace transform as a tool for solving differential equations. MA 238 is an AGSC core course. Prerequisites: MA 172 & MA 201 with concurrency.

MAE 271 - STATICS

Semester Hours: 3

Topics include: forces, resultant forces, moments, couples equivalent force systems, equilibrium, distributed loads, two force members, trusses, centroids, moments of inertia, shear and bending moment diagrams, static and kinematic friction. (Same as CE 271) Prerequisites: PH 111, and ENG 101 Prerequisites with Concurrency: MA 201.

MAE 345 - HONORS THERMODYNAMICS COLQ

Semester Hour: 1

Students in this course will be expected to participate in assigned readings and discussions to develop an understanding of the context behind the fundamental concepts and principles of thermodynamics. Through reflections students will be encouraged to apply this knowledge to develop their own creative ideas. Prerequisites with concurrency: MAE 341 or CHE 344.

MU 100 - INTRO TO MUSIC LITERATURE

Semester Hours: 3

This course is designed as a cultural and historical overview with the purpose of developing a greater appreciation and understanding of art music. Course content will include exploration of musicians, ideas, and issues in various types of western and non-western music, through reading, listening, and discussion. No prerequisite is required. Offered every semester.

NUR 307 - INQRY TO EVIDNC BASED NURS PRC

Semester Hours: 3

This course identifies various modes of inquiry and critical analysis used in the development of nursing science. Explore evidence based models to examine the evidence from a variety of research designs used to formulate nursing decisions. Emphasis is on identifying and synthesizing the best evidence to solve complex health problems in order to deliver safe, competent nursing care to diverse populations. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 415 - HONORS DIRECTED RESEARCH

Semester Hours: 2

This course allows for implementation of the student's research proposal as developed in the Honors section of NUR 307. The focus is on data collection and preliminary data analysis. The seminar format will provide students access to expert researchers.

PHL 101 - INTRODUCTION TO PHILOSOPHY

Semester Hours: 3

Introduction to philosophical reflection focusing upon central problems in the major branches of the western tradition: metaphysics, epistemology and value theory.

PHL 102 - INTRO TO ETHICS

Semester Hours: 3

Major ethical positions in both classical and modern thought. The course may include a consideration of case studies drawn from practical contexts in engineering, medicine and other areas.

PH 111 - GEN PHYSICS W/CALCULUS I

Semester Hours: 3

For science and engineering students. Basic laws of physics and their application to specific problems: vectors, Newtonian mechanics, energy, conservation laws, simple harmonic motion, statics, fluids. Offered all terms. Prerequisite: MA 171 Corequisite: PH 114.

PH 114 - GENERAL PHYSICS LAB I

Semester Hour: 1

Laboratory instruction in support of material covered in PH 111. Offered all terms. Corequisite: PH 111.

PH 112 - GEN PHYSICS W/CALC II

Semester Hours: 3

Continuation of PH 111. Heat and thermodynamics, basic electricity, electric and magnetic fields. Offered all terms. Prerequisite: MA 172, PH 111, PH 114. Corequisite: PH 115.

PH 115 - GENERAL PHYSICS LAB II

Semester Hour: 1

Laboratory instruction in support of material covered in PH 112. Offered all terms. Corequisite: PH 112.

SOC 100 - INTRO TO SOCIOLOGY

Semester Hours: 3

An introduction to the critical and scientific study of society, culture, social institutions and social change. Illuminates the social and cultural context of our lives and is useful for exploring contemporary social issues, problems and change in society.

College of Nursing

1610 Ben Graves Drive

Telephone: 256.824.6345

Email: nursing@uah.edu

Dean:

Karen Frith, PhD, RN, NEA-BC, CNE, Professor

Mission

Educate and inspire individuals to become nurse leaders who act with integrity, discover through scientific methods, promote wellness, and advocate for the best health care experiences of people and communities in a complex and evolving health care environment. In collaboration with our university colleagues and community partners, we are committed to excellence through our teaching, scholarship, practice, and service.

Vision

To have a global reputation for promoting wellness and transforming health care through innovative nursing practice, education, and research.

Core Values

- Integrity - Resolutely adhering to moral, ethical, and professional standards.
- Inspiration - Encouraging, role-modeling, and mentoring others to pursue their professional dreams.
- Caring - Acting with compassion and respecting all persons by embracing cultural humility, diversity, and person-centered care.
- Excellence - Pursuing and achieving goals of the highest caliber.
- Wellness - Maximizing well-being in different states of health.

Degrees and Certificates Offered

The College of Nursing offers the Bachelor of Science in Nursing (BSN), Master of Science in Nursing (MSN), Doctor of Nursing Practice (DNP), and Joint Nursing Science Ph.D. (UAH and UA) degrees. The College of Nursing also offers a Post-Master's Family Nurse Practitioner Certificate Program, and a Graduate Certificate in Nursing Education. The bachelor's program includes a program for students who are completing their initial nursing education (pre-licensure BSN), a track for students currently licensed as registered nurses (RN-BSN), and a dual associates/bachelors track for students pursuing an Associates Degree in Nursing (ADN) while simultaneously pursuing a Bachelors of Science in Nursing degree.

Accreditation

The Baccalaureate Degree Program in Nursing at the University of Alabama in Huntsville (UAH) College of Nursing is accredited by the Commission on Collegiate Nursing Education (<http://ccneaccreditation.org/>). The undergraduate program is also approved by the Alabama Board of Nursing.

Bachelor of Science in Nursing

The College of Nursing offers the Bachelor of Science in Nursing (BSN) degree. The BSN degree includes a program for students who are completing their initial nursing education (pre-licensure BSN), a track for students currently licensed as registered nurses (RN-BSN) and a dual associates/bachelors track. Dual students are individuals pursuing an Associates Degree in Nursing (ADN) at the community college level while simultaneously completing online courses for the Bachelors of Science in Nursing degree at UAH.

The undergraduate pre-licensure program prepares graduates to assume entry-level positions in a variety of health care settings. The program is divided into two components: the lower and upper divisions. Lower division general studies (prerequisite) courses provide a broad background in general education and form the foundation for the professional nursing component of the program. Upper division courses provide the theoretical and practical basis for nursing practice in the complex U.S. health care system. In addition to focusing on essentials of nursing in the hospital including the critical care area, the curriculum also emphasizes community and primary care. Opportunities to provide care to diverse clients are provided. Use of technology, including simulation and telehealth, is integrated throughout the program. The program prepares graduates for professional positions immediately after graduation and provides a firm foundation for graduate study. Students who earn the BSN degree are eligible to sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The guiding framework for the BSN Program is the *The Essentials: Core Competencies for Professional Nursing Education (AACN, 2021)*.

The RN-BSN track is specifically designed for Registered Nurses with a diploma or associate degree and is offered online. Students who enroll in the full-time option may complete the nursing component of the program in one year. Part-time options are available as well.

The dual associates/bachelors nursing track is specifically designed for students are simultaneously enrolled in an ADN program at a partnering community college and our online BSN program.

Program Outcomes

1. Practice nursing as a generalist using scientific, ethical, legal, and professional standards as a basis for clinical judgment.
2. Translate research and utilize evidence-based practice to promote quality healthcare across diverse, vulnerable populations and cultures.
3. Examine healthcare policy, care delivery models, and organizational systems for current and future healthcare needs within the clinical setting.
4. Demonstrate characteristics of leadership and accountability to promote effective intra- and inter-professional communication and collaboration in healthcare systems.
5. Display proficiency in the use of patient care technologies, healthcare information systems, and communication devices to support safe and competent nursing practice.
6. Engage in lifelong learning and participate in professional activities that enhance the nursing profession.
7. Appraise health determinants to include personal, social, economic, and environmental factors that influence the health of individuals, families, groups, communities, and populations.

Advising and Assistance

The focus of advising in the College of Nursing (CON) is to assist students to successfully progress toward their educational outcomes. All students taking classes at UAH in the lower division (100 and 200 level classes), those seeking admission to the upper division nursing courses (UAH or transfer students), Registered Nurses (RNs) and students admitted to the dual nursing track are advised in the CON Office of Undergraduate Programs. Advisors in the CON Office of Undergraduate Programs assist students to define and develop realistic educational and career plans. In addition, they monitor progress toward educational and career goals, approve all designated educational transactions such as schedules, drop/adds, withdrawals, and maintain advising records for each student. Advisors also refer students to other campus resources when needed.

All students use DegreeWorks in Banner Self Service to track their progress toward meeting the requirements of the program of study (POS).

Majors in Nursing

- Nursing, BSN (p. 523)
- Nursing, RN-BSN (p. 532)
- Nursing, Dual ADN/BSN (p. 531)

NUR 000 - NURSING-CREDIT BY VALIDATION

Semester Hours: 3-42

NUR 001 - NURSING TESTING BLOCK

Semester Hours: 0

Nursing Testing Block is a common block of time for students in different cohorts to take their examinations.

NUR 220 - HEALTH PROMOTION NUR MAJORS

Semester Hours: 3

The focus of this class is on health and high-level wellness across the lifespan, with an emphasis on promoting healthy living and preventing illness. Diverse perceptions and beliefs related to health and wellness are explored, and ways to put healthy ideas into practice are applied. Medical terminology to improve healthcare communication is incorporated into the course.

NUR 301 - Professional Concepts in Nursing

Semester Hours: 3

This course focuses on professional development using concepts and theories basic to the art and science of nursing. Students are introduced to the concepts of communication, teaching/learning, clinical decision making, ethical/legal issues, nursing history, and philosophy for knowledge development of the discipline. Clinical informatics and healthcare technologies are also introduced as tools to deliver safe, ethical, evidence-based nursing care. Prerequisites with concurrency: NUR 303, 304, and 311.

NUR 303 - HEALTH ASSESSMENT

Semester Hours: 5

Focus on holistic assessment of culturally diverse clients across the life span. Communication & psychomotor skills are developed in clinical laboratory settings with an emphasis on normal findings and health promotion.

NUR 303L - CLINICAL

Semester Hours: 0

NUR 304 - APP PATHOPHYSIOLOGY LIFESPAN

Semester Hours: 3

The course is designed to help the student build on previous knowledge of anatomy and physiology and microbiology. Adaptations and alterations in health status throughout the lifespan are emphasized. Students explore the implications of lifestyle to pathology within a nursing framework, and learn to relate normal body functioning to the pathophysiological changes that occur in, and as a result of disease.

NUR 305 - NUR PROC MENTAL HLTH/ILLNESS

Semester Hours: 4

Nursing process in the promotion of psychosocial integrity. Emphasis is on the therapeutic use of self through providing interventions for individuals and groups in a variety of settings. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 305L - CLINICAL

Semester Hours: 0

NUR 307 - INQRY TO EVIDNC BASED NURS PRC

Semester Hours: 3

This course identifies various modes of inquiry and critical analysis used in the development of nursing science. Explore evidence based models to examine the evidence from a variety of research designs used to formulate nursing decisions. Emphasis is on identifying and synthesizing the best evidence to solve complex health problems in order to deliver safe, competent nursing care to diverse populations. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 308 - NURS CARE ADULTS HLTH ALERTNS

Semester Hours: 8

This course focuses on the application of the nursing process in the collaborative nursing management of adult clients experiencing simple to complex physiological health alterations. Clinical experiences provide opportunities for beginning to intermediate clinical reasoning in the acute care environment. The embodiment of professionalism and professional values are emphasized. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 308L - CLINICAL

Semester Hours: 0

NUR 310 - PROFESSIONAL PRACTICE NURS I

Semester Hours: 6

This course will begin the process of learning foundational nursing skills to be used in nursing practice. Psychomotor nursing skills needed to assist individuals meet basic human needs will be taught with expectation the student will demonstrate competency in performing skills. Laboratory and clinical experiences are included. Prerequisites: NUR 301, NUR 303, NUR 304, NUR 311.

NUR 310L - CLINICAL

Semester Hours: 0

NUR 311 - CLINICAL CALCULATIONS

Semester Hour: 1

In this course, students will learn to accurately calculate medication dosages. Testing in this course will establish minimal medication calculation proficiency required to progress to the second semester of the nursing program. Prerequisites with concurrency: NUR 301, NUR 304, NUR 303.

NUR 312 - GERO NURSING CARE

Semester Hours: 3

This course is designed to focus on current health care issues affecting the older adult. Physical, psychological, sociocultural, and spiritual aspects of aging are examined within the context of the family and society. The course applies the nursing process with emphasis on optimal health for the older adult. Prerequisites: NUR 301, 303, 304, and 311. Prerequisite with concurrency: NUR 310 and 321.

NUR 312L - CLINICAL

Semester Hours: 0

This is the clinical component of the Gerontological Nursing Care course. The course will focus on current health care issues affecting the older adult. Physical, psychological, sociocultural, and spiritual aspects of aging are examined within the context of the family and society. The course applies the nursing process with emphasis on optimal health for the older adult.

NUR 321 - PHARMACOLOGY IN NURS

Semester Hours: 3

This course comprises pharmacological concepts incorporating an overview of historical and current issues in drug therapy. Pharmacotherapeutics, pharmacodynamics, pharmacokinetics, contraindications and precautions for prototype drugs for multiple body systems are presented. Major emphasis is placed on nursing management practices using nursing process as well as the nurses' role in optimizing reliable medication administration.

Prerequisites: NUR 301, NUR 303, NUR 304, NUR 311.

NUR 339 - INFO MGMT IN HEALTHCARE

Semester Hours: 3

This course is designed to introduce information management, including decision support systems. The use of information management nomenclature is integrated into the learning activities. The role of the nurse as an advocate in improving patient outcomes using data management is explored. Safety, ethical, and legal concerns are addressed. Prerequisite: NUR 410.

NUR 390 - INDEPENDENT STUDY

Semester Hours: 1-4

Individualized independent study of specific nursing problem under sponsorship of a nursing faculty member with special preparation in the field. Elective.

NUR 391 - GLOBAL HEALTH

Semester Hour: 1

NUR 400 - SPECIAL TOPICS

Semester Hours: 3

NUR 401 - NURS CARE CRITICALLY ILL ADULT

Semester Hours: 5

This course explores the evidence-based collaborative nursing management of clients experiencing complex physiological health alterations. Clinical experiences will provide opportunities for advanced clinical reasoning in the acute and critical care environments. Prerequisites: NUR 305 and NUR 307 and NUR 308.

NUR 401L - CLINICAL

Semester Hours: 0

NUR 403 - MATERNAL INFANT NURSING

Semester Hours: 4

This course explores internal and external factors, which impact the health of the family during the antepartal, intrapartal, postpartal and neonatal periods of childbearing. Emphasis is placed on nursing care of these clients, normal physiology, pathophysiology, psychological and sociocultural needs, and risk identification and reduction. Prerequisites: NUR 305 and NUR 307 and NUR 308 and NUR 321.

NUR 403L - CLINICAL

Semester Hours: 0

NUR 404 - FAMILY-CENTER NUR CARE CHILDRE

Semester Hours: 4

This course is designed to introduce the concept of family centered pediatric care that is developmentally appropriate for a culturally diverse population. Clinical experiences in selected agencies. Prerequisites: NUR 301 and NUR 307 and NUR 308 and NUR 321.

NUR 404L - CLINICAL

Semester Hours: 0

NUR 405 - COMMUNITY HEALTH NURS

Semester Hours: 4

The course explores the community as client and teaches concepts and knowledge necessary to promote the health of the public and communities. Emphasis is on community health theory, individual, family, and community assessment, aspects of epidemiology, program planning and evaluation, trends and issues, legislation, ethics, research, health care economics and disaster management. Prerequisites: NUR 401 and NUR 403 and NUR 404.

NUR 405L - CLINICAL EXPERIENCE

Semester Hours: 0

NUR 407 - PROF PRACTICE IN NURSING II

Semester Hours: 8

The focus of this course is the leadership and management functions of professional nursing. Essential skills are communication, interprofessional collaboration, delegation, coordination, and the application of evidence-based practice models. Clinical experiences will focus on performance of the professional nurse role in a concentrated practicum. Prerequisites: NUR 401 and NUR 403 and NUR 404.

NUR 407L - CLINICAL EXPERIENCE

Semester Hours: 0

NUR 408 - PROF PRAC IN NURS III SEMINAR

Semester Hours: 2

The purpose of this class is to facilitate the synthesis of knowledge, the application of critical thinking to decisions about patient care, and to ensure safe and competent nursing practice. Test-taking skills and time management concepts will be applied in preparation of the NCLEX-RN licensure exam. Prerequisites: NUR 407.

NUR 410 - TRANSITION INTO PROFESS ROLES

Semester Hours: 3

The course examines the multi-dimensional role of the professional nurse in health systems. Through the analysis of a paradigm case and development of a personal philosophy of nursing, the student evaluates professional practice and develops goals designed to guide learning and professional development. Philosophical, social, political, legal, and ethical issues inherent in the practice of professional nursing in health systems are discussed.

NUR 411 - THEORETICAL APPL IN PROF NURS

Semester Hours: 3

Designed for registered nurse students to synthesize knowledge gained from previous nursing experience when analyzing theories, issues and concepts that influence professional nursing practice. Theoretical concepts, which influence critical thinking, are applied to the nursing process. Analysis of normal processes and professional nursing responses to alterations in life processes across the lifespan are examined. Caring for diverse clients is emphasized. Ethical and legal issues which impact the care for client systems are examined when synthesizing theoretical and nursing practice issues.

NUR 413 - LEADERSHIP PROF NURS PRACT

Semester Hours: 5

4 course / 1 clinical. Designed to improve leadership in professional nursing practice, this course provides the basis for advancing health through leading and managing the care giver and care coordinator roles in a variety of culturally diverse healthcare systems. The exploration of the health care environmental takes place within the context of organizational climate and culture, leading change and innovation and promoting excellence in professionalism. Students apply leadership principles through case study and the development of a clinical change project within indirect practice experiences. Prerequisite with concurrency: NUR 410.

NUR 415 - HONORS DIRECTED RESEARCH

Semester Hours: 2

This course allows for implementation of the student's research proposal as developed in the Honors section of NUR 307. The focus is on data collection and preliminary data analysis. The seminar format will provide students access to expert researchers.

NUR 416 - HONORS RESEARCH SEMINAR

Semester Hour: 1

The focus of this seminar is completion of final research report, as begun in NUR 307 and NUR 415.

NUR 417 - NURS CARE VUL POP

Semester Hours: 4

This course examines health determinants and health disparities within the US as well as in the global community. The student will examine health disparities and the burden of disease within social, cultural, political, economic, and environmental contexts. Students will examine strategies aimed at risk reduction and improvement through outcomes. Prerequisite with concurrency: NUR 410.

NUR 421 - AC CARE FOR PROFESSIONAL NURSE

Semester Hours: 3

2 Course / 1 Clinical. The nursing process is applied to clients experiencing physiological health alterations requiring complex and collaborative nursing strategies and appropriate resource management. Direct practice experiences are focused on conducting comprehensive assessments and care planning with the interprofessional team. Prerequisite with concurrency: NUR 410.

NUR 422 - COMMUNITY HEALTH FOR PROF NURS

Semester Hours: 5

4 course/1 clinical. This course is designed to provide the application of theoretical concepts related to primary, secondary, and tertiary care of families and aggregates in professional nursing practice. Emphasis is on application of the nursing process in assessing social determinants of health and promoting community health for diverse communities. Application of direct practice experience activities are designed to meet individual learning needs of the student in delivering and managing care of selected aggregate populations. Prerequisite with concurrency: NUR 410.

NUR 423 - EVID BASED PRACTICE PROFESS NU

Semester Hours: 3

This course fosters the application of the best clinical evidence into practice in order to promote improvement in healthcare experiences and patient outcomes. Various modes of scientific inquiry used in the development of nursing science are incorporated into a survey of research techniques, methodologies, and ethical concerns. This will enable students to select and evaluate appropriate information relevant to evidence based practice. Students will develop skills in the use of electronic databases to facilitate acquisition of current information. Emphasis is placed on the critical analysis of evidence to be used in formulating nursing decisions and the design of client care guidelines. Prerequisite: NUR 410.

NUR 426 - SPACE LIFE SCIENCES

Semester Hours: 3

Theories and concepts of contemporary issues in health and nursing related to space life sciences.

NUR 427 - INTRODUCTION TO FORENSICS

Semester Hours: 3

This course provides an overview of the field of forensic nursing. Concepts of care for victims and family members of violence, abuse, traumatic accidents, and criminal activity are discussed. Current healthcare practices and medical/legal/ethical issues are reviewed. Elective, open to all university students.

NUR 439 - NURSING MEDICAL MISSIONS

Semester Hours: 2

This course will examine concepts and issues associated with humanitarian and medical missions. Commonly occurring healthcare needs relevant to specific vulnerable populations will be analyzed in preparation for delivery of healthcare. The culmination of this course is a trip abroad to deliver healthcare to a population in need within the structure of a medical mission. This course is an accepted elective in the Nursing program. Prerequisite: NUR 303.

Nursing, BSN

BSN, Pre-licensure program requirements

Students completing the lower division general studies (prerequisite courses) of the program at UAH should follow the program of study outlined below. Specific UAH courses that satisfy admission requirements are listed under the degree description. Students transferring from Alabama two-year colleges should follow the general studies curriculum approved by the Articulation and General Studies Committee (AGSC & STARS (<http://stars.troy.edu/>)). Students transferring from other institutions are encouraged to complete courses equivalent to those listed below:

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	

EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	

WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

CH 151 and CH 155 are the preferred Chemistry courses.

*Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Code	Title	Semester Hours
Pre Professional Courses		18
BYS 214	INFECTION & IMMUNITY	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
BYS 216	HUMAN ANATOMY & PHYSIOLOGY II	
NUR 220	HEALTH PROMOTION NUR MAJORS	
Choose one:		
PY 300	PSYCHOLOGICAL STATISTICS	
SOC 303	STATISTICS/SOCIAL SCIENCES	
MSC 287	BUSINESS STATISTICS I	
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	
Total Lower Division Semester Hours		60

Upper Division Courses

The following upper Division courses are required for a baccalaureate degree in nursing. Contact the College of Nursing Office of Undergraduate Programs for the most current information.

Pre-licensure Courses:

Code	Title	Semester Hours
NUR 001	NURSING TESTING BLOCK	0
NUR 301	Professional Concepts in Nursing	3
NUR 303	HEALTH ASSESSMENT	5
NUR 303L	CLINICAL	0
NUR 304	APP PATHOPHYSIOLOGY LIFESPAN	3
NUR 305	NUR PROC MENTAL HLTH/ILLNESS	4
NUR 305L	CLINICAL	0
NUR 307	INQRY TO EVIDNC BASED NURS PRC	3
NUR 308	NURS CARE ADULTS HLTH ALTERNES	8
NUR 308L	CLINICAL	0
NUR 310	PROFESSIONAL PRACTICE NURS I	6
NUR 310L	CLINICAL	0
NUR 311	CLINICAL CALCULATIONS	1
NUR 312	GERO NURSING CARE	3

NUR 312L	CLINICAL	0
NUR 321	PHARMACOLOGY IN NURS	3
NUR 401	NURS CARE CRITICALLY ILL ADULT	5
NUR 401L	CLINICAL	0
NUR 403	MATERNAL INFANT NURSING	4
NUR 403L	CLINICAL	0
NUR 404	FAMILY-CENTER NUR CARE CHILDRE	4
NUR 404L	CLINICAL	0
NUR 405	COMMUNITY HEALTH NURS	4
NUR 405L	CLINICAL EXPERIENCE	0
NUR 407	PROF PRACTICE IN NURSING II	8
NUR 407L	CLINICAL EXPERIENCE	0
NUR 408	PROF PRAC IN NURS III SEMINAR	2
Total BSN Semester Hours		126

CH 151 and CH 155 are the preferred Chemistry courses.

*Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Admission Policies

Students interested in pursuing the pre-licensure baccalaureate degree in nursing must meet the general entrance requirements of the University. Students should schedule advising as early as possible to ensure that the correct prerequisite courses for the pre-licensure program are completed as required. Students are also encouraged to meet with a nursing advisor each semester to monitor their progress. All lower-division general studies (prerequisite) courses must be completed to be eligible to enroll in upper-division nursing courses. For information and assistance, contact the College of Nursing Office of Undergraduate Programs (256.824.6742).

Admission to the Upper Division BSN Pre-licensure program

Students must apply and be admitted to the upper-division nursing pre-licensure program to be eligible to enroll in 300 and 400 level nursing courses with clinical labs. Admission into the upper-division pre-licensure nursing program is competitive and spaces are limited. A separate nursing application (found on the UAH CON website (<https://www.uah.edu/nursing/degree-programs/bsn/bsn-admission/>)) for the upper-division pre-licensure program must be submitted by the published dates. When the number of students applying to the upper-division pre-licensure program exceeds the number of spaces available, the most qualified applicants will take priority. Enrollment at UAH as a nursing major in the lower-division courses does not assure admission to the upper-division courses. Students admitted into the Early Promotion into Nursing Program (EPNP) as freshmen are exempt from the application process unless they do not maintain their eligibility requirements for EPNP.

Enrollment in the upper-division nursing component is limited and competitive. Students are admitted without regard to race, color, creed, national origin, sex, or qualified disability.

Admission Criteria

- Students must meet the following criteria to be considered eligible for admission:
 - Admission to the University prior to the application deadline.
 - Submission of a completed nursing application and application fee by posted deadlines.
 - A minimum cumulative calculated nursing GPA of 3.0 on all nursing prerequisite courses.
 - A minimum cumulative GPA of 2.75 in all required science courses.
 - A minimum grade of "C" in all nursing prerequisite course
 - A minimum cumulative score of 75% on the HESI Admission Assessment (A2) Exam.
An 80% or higher is required on the HESI A2 for EPNP students.
- Once students have been selected for promotion to the upper division, grades in prerequisite courses are checked just prior to the start of the semester for which they were accepted. Promotion to the upper-division will be forfeited if any prerequisite course is found missing or less than a "C" is earned.
- Students seeking transfer from the upper division of another nursing education program must submit a letter of good standing indicating that the student is eligible for continued enrollment in that program. Nursing courses requested for transfer will be reviewed individually for equivalency by the College of Nursing. Transfer requests are to be submitted to the College of Nursing Office of Undergraduate Programs.
- Students who were dismissed from another nursing program or failed any equivalent upper-division nursing courses are not eligible for admission to the UAH College of Nursing BSN pre-licensure program.

Early Promotion into UAH Nursing Program (EPNP)

Highly qualified students who enter UAH as freshmen, declare Nursing as their major, complete all lower-division nursing coursework on the UAH campus, and meet the requirements listed below will be enrolled in the EPNP and guaranteed acceptance in the upper-division nursing courses. Since students will also be eligible to enroll in the UAH Honors College, students enrolling in the EPNP should consider applying for the UAH Honor's College <http://www.uah.edu/honors/application-forms> (<http://www.uah.edu/honors/application-forms/>).

High school students who meet the following criteria automatically qualify for the EPNP:

- A high school GPA of 3.5.*

In order to maintain good standing status for continuation into the upper division of nursing, EPNP students must:

- Maintain a minimum cumulative GPA of 3.25 on all required lower-division (prerequisite) courses.
- Complete all identified required courses at UAH.
- Achieve an overall cumulative score of at least 80% on the HESI Admissions Assessment (A2) exam.

Students who do not maintain these criteria may be eligible for admission but will need to apply and will be considered with the competitive pool of applicants.

* Requirements and conditions are subject to change.

Progression Standards

I. Grading Scale:

The College of Nursing grading scale for the upper-division nursing (NUR) courses in the pre-licensure BSN program is consistent with major universities across the United States. The scale is listed below:

A = 90 - 100

B = 80 - 89

C = 75 - 79

D = 60 - 74

F <60

II. Students must follow the program of study (POS) under which they were admitted (see A below). Students who withdraw or fail courses must follow the policies outlined in sections B-D below.

A. Progression according to the Program of Study (POS):

1. A grade of "C" or above must be earned in all required nursing courses.
2. Students must successfully complete the clinical component of all clinical nursing courses. Students who are unsatisfactory in the clinical component of a clinical nursing course will receive a failing grade (F) in the course.
3. Students must meet standards of professional conduct as described in the American Nurses Association Code of Ethics for Nurses, the Alabama Board of Nursing Practice Act, and standards of student behavior as described in the *UAH Undergraduate Student Handbook*.
4. Throughout the program, students must meet the *Core Performance Standards*, the requirements identified in the *Health and Other Requirements*, and requirements specified in clinical agency contracts.

B. Failure of One Course:

1. A student who receives a grade below "C" in a required nursing course must repeat the class before progressing in the program. The student must meet with the Associate Dean of Undergraduate Programs or BSN Program Coordinator to develop a revised program of study based on space availability and progression constraints. Before considering the placement of any students who have not succeeded in a course, preference for spaces will be given to those applicants who meet all progression criteria. Any alteration of the initial program of study will lengthen the student's program. A progression agreement may be required.

C. Dismissal from Nursing Program:

1. A student who receives two or more grades below "C" in required nursing courses (except NUR 311 and NUR 408), in either the same course or in separate courses, at any time during the program will be dismissed from the College of Nursing. Students may petition for readmission to the College of Nursing by following the policy and completing the form found in the *College of Nursing Undergraduate Student Handbook* and submitting it to the Undergraduate Nursing Programs office. Readmission into the upper-division nursing program is not guaranteed; availability of space in a cohort and the information submitted in the petition for

readmission are considerations. Students who are readmitted and subsequently earn another grade below "C" in any nursing course will be permanently dismissed from the program.

2. Academic dismissal from the College of Nursing precludes progression in the nursing curriculum. Retroactive withdrawal or other related progression decisions from courses after academic dismissal from the nursing program does not result in a reversal of the dismissal.

D. Withdrawal from Nursing Program:

1. Students may withdraw from the same course twice. After the second withdrawal, the student either earns a grade or withdraws from the program. Any student who withdraws from a course must meet with the Associate Dean of Undergraduate Programs or BSN Program Coordinator to develop a revised program of study based on space availability and progression constraints. Before considering the placement of any students who have not succeeded in a course, preference for spaces will be given to those applicants who meet all progression criteria. Any alteration of the initial program of study will lengthen the student's program. A progression agreement may be required.
2. Students who are unsatisfactory in the clinical component of a clinical nursing course are ineligible for withdrawal.

E. Graduation from the Nursing Program:

1. Students are required to take national standardized examinations in selected courses. These examinations are counted as a portion of the overall course grade for each course. Remediation will be required if scores fall below the UAH CON passing standard.
2. An overall "C" (2.0) grade point average (GPA) on all courses taken at UAH is required for graduation.

Health and Other Requirements for Students in Upper Division Nursing Courses

Clinical agencies require students to meet various health-related requirements. Students must complete and maintain currency of all health documentation requirements prior to enrollment in upper-division level courses and throughout the program for progression. Students are responsible for maintaining original health records. Some of these records will be managed by the Office of Undergraduate Programs, an external clearinghouse, or by the UAH Student Health Center. **Students who fail to complete and submit their health requirements by any designated deadline may not be allowed to begin classes or clinical until all health requirements are met.**

Standards of Conduct and Accountability

The nursing student shall comply with legal, moral, and legislative standards that determine unacceptable behavior of the nurse and that may be cause for denial of a license to practice as a registered nurse, in accordance with the Alabama law regulating the practice of registered nurses as provided below.

The Alabama Board of Nursing may deny a license and/or temporary permit by examination or endorsement based on Alabama rule 610-x-8-.02 and rule 610-x-8-.03. Examples of grounds for denial and discipline of a license may include:

1. Engaging in fraud, misrepresentation, deception, or concealment of a material fact in applying for or securing licensure or taking any examination required for licensure.
2. Having engaged in conduct that is inconsistent with good moral character such as having a criminal history or pattern of illegal conduct or disregard for the law.
3. Having disciplinary action pending or having had a license, registration, or certification for any health-related profession denied, conditionally issued, fined, reprimanded, censured, restricted, limited, placed on probation, suspended, revoked, voluntarily surrendered, or otherwise encumbered in any state, territory or country.
4. Having been court-martialed or administratively discharged by a branch of the United States Armed Forces for any act or conduct that would constitute grounds for discipline Alabama under Rule 610-X-8-.03.
5. Any other reasons authorized by law.

Failure to comply with any of the Alabama Board of Nursing standards while in the nursing program constitutes grounds for dismissal from the program.

Completion of the nursing program does not guarantee licensure based on the Alabama Board of Nursing's regulations governing the review of candidates for eligibility for initial and continuing licensure.

Core Performance Standards

Core Performance Standards may also be referred to as essential functions that define selected attributes and behaviors necessary for students to demonstrate in order to successfully complete their education and subsequently enter nursing practice. These essential functions are determined to be required for initial and continued enrollment in the College of Nursing. Students must be able to perform each of the following essential functions with or without reasonable accommodations.

1. Critical thinking ability for effective clinical reasoning and clinical judgment consistent with the level of educational preparation. Examples (not all-inclusive) of necessary activities include identifying cause-effect relationships in clinical and classroom situations, use of the scientific method in developing patient care plans; evaluation of the effectiveness of nursing interventions.

2. Professional relationships, Interpersonal skills are sufficient for professional interactions with a diverse population of individuals, families, and groups. Examples (not all-inclusive) include the ability to establish rapport with patients/clients and colleagues; the capacity to engage in successful conflict resolution; peer accountability.
3. Communication adeptness is sufficient for verbal and written professional interaction. Examples (not all-inclusive) include explaining treatment procedures, initiating health teaching, and documenting and interpreting nursing actions and patient/client responses.
4. Mobility such as physical abilities sufficient to move from room to room and maneuver in small spaces. Examples (not all-inclusive) include moving around in clients' rooms, workspaces, and treatment areas; and administering cardiopulmonary procedures.
5. Gross and fine motor abilities are sufficient for providing safe, effective nursing care. Examples (not all-inclusive) include completing examinations/evaluations by writing, typing, or demonstration; calibrating and using equipment, and therapeutic positioning of clients.
6. Auditory abilities that are sufficient to monitor and assess health needs. Examples (not all-inclusive) include hearing basic conversations; monitoring alarms, emergency signals, and auscultatory sounds; and hearing cries for help.
7. Visual abilities that are sufficient for observation and assessment as necessary for patient care. Examples (not all-inclusive) include reading documents (printed and electronic) such as patient charts and laboratory reports, reading calibrations on syringes, sphygmomanometers, and thermometers, and equipment outputs such as waves, printouts, and digital readings; and accurately observing client behaviors such as physical/physiological changes, nonverbal communication, and responses to treatments.
8. Tactile abilities that are sufficient for physical assessment. Examples (not all-inclusive) include performing palpation, percussion, temperature changes, necessary for complete physical examinations, and other activities related to therapeutic interventions.
9. Behavioral/Social abilities that are sufficient to demonstrate emotional stability, maintenance or composure under stress, development of mature, empathetic, and effective nurse-patient relationships, and the use of sound and unimpaired judgment in classroom and clinical activities.

These core performance standards are not intended to be a complete listing of all nursing behaviors, but they are a sampling of the types of abilities needed by nursing students to meet program objectives and requirements. The College or its affiliated agencies may identify additional critical behaviors or abilities. The identified core performance standards are revised and adopted from the Americans with Disabilities Act implications for Nursing Education (revised 2008).

Responsibility Compliance with Clinical Agencies

Students are responsible for complying with policies and procedures required by clinical agencies. The College of Nursing may not be able to provide alternative placements for students. Failure to meet clinical agency requirements may lead to exclusion from required clinical educational experiences and prevent completion of the program.

Upper Division Program of Study:

Semester 1		Semester Hours
NUR 001	NURSING TESTING BLOCK	0
NUR 301	Professional Concepts in Nursing	3
NUR 303	HEALTH ASSESSMENT	5
NUR 303L	CLINICAL	0
NUR 304	APP PATHOPHYSIOLOGY LIFESPAN	3
NUR 311	CLINICAL CALCULATIONS	1
Term Semester Hours:		12
Semester 2		
NUR 001	NURSING TESTING BLOCK	0
NUR 310	PROFESSIONAL PRACTICE NURS I	6
NUR 310L	CLINICAL	0
NUR 312	GERO NURSING CARE	3
NUR 321	PHARMACOLOGY IN NURS	3
Term Semester Hours:		12
Semester 3		
NUR 001	NURSING TESTING BLOCK	0
NUR 305	NUR PROC MENTAL HLTH/ILLNESS	4
NUR 305L	CLINICAL	0
NUR 307	INQRY TO EVIDNC BASED NURS PRC	3
NUR 308	NURS CARE ADULTS HLTH ALTERN	8
NUR 308L	CLINICAL	0
Term Semester Hours:		15
Semester 4		

NUR 001	NURSING TESTING BLOCK	0
NUR 401	NURS CARE CRITICALLY ILL ADULT	5
NUR 401L	CLINICAL	0
NUR 403	MATERNAL INFANT NURSING	4
NUR 403L	CLINICAL	0
NUR 404	FAMILY-CENTER NUR CARE CHILDRE	4
NUR 404L	CLINICAL	0
Term Semester Hours:		13
Semester 5		
NUR 405	COMMUNITY HEALTH NURS	4
NUR 405L	CLINICAL EXPERIENCE	0
NUR 407	PROF PRACTICE IN NURSING II	8
NUR 407L	CLINICAL EXPERIENCE	0
NUR 408	PROF PRAC IN NURS III SEMINAR	2
Term Semester Hours:		14
Total Semester Hours:		66

Nursing, Dual ADN/BSN

Required Prerequisite Courses

Prerequisite course requirements will be completed at the partner community college (55-59 credit hours). Contact an advisor for the specific course requirements. Total degree requirements: 126 semester hours.

Dual ADN/BSN Nursing Courses

Nursing courses at partner community colleges may vary. Alabama Community College nursing courses are listed here. Contact an advisor for specific requirements.

Code	Title	Semester Hours
Alabama Community College courses:		
NUR 112 (CC)	Fundamental Concepts of Nursing	7
NUR 113 (CC)	Nursing Concepts I	8
NUR 114 (CC)	Nursing Concepts II	8
NUR 115 (CC)	Evidence Based Clinical Reasoning	2
NUR 211 (CC)	Advanced Nursing Concepts	7
NUR 221 (CC)	Advanced Evidence Based Clinical Reasoning	7
UAH courses (all online):		
NUR 000	NURSING-CREDIT BY VALIDATION	45
NUR 339	INFO MGMT IN HEALTHCARE	3
NUR 410	TRANSITION INTO PROFESS ROLES	3
NUR 413	LEADERSHIP PROF NURS PRACT	5
NUR 417	NURS CARE VUL POP	4
NUR 421	AC CARE FOR PROFESSIONAL NURSE	3
NUR 422	COMMUNITY HEALTH FOR PROF NURS	5
NUR 423	EVID BASED PRACTICE PROFESS NU	3
Total Semester Hours		110

Dual ADN/BSN Admission Requirements

Minimum Admission Requirements:

1. All general academic courses must be completed prior to application deadlines.
2. Unconditional admission to UAH and the partner community college.
3. Must be in good standing with UAH and the partner community college.

4. Receipt of completed nursing application at both institutions by posted deadlines.
5. Meet eligibility criteria for admission (see admission criteria determined by the partner community college).

Progression and Graduation Standards

1. A minimum grade of "C" or above must be earned in all required nursing courses and prerequisite courses.
 - a. The UAH College of Nursing adheres to the following grade scale:
 - i. A = 90 - 100
 - ii. B = 80 - 89
 - iii. C = 75 - 79
 - iv. D = 60 - 74
 - v. F <60
2. An overall "C" (2.0) grade point average (GPA) is required for graduation.
3. Semesters 5-9 students will have full-time enrollment status between UAH and the partner community college.
4. Withdrawal from or academic failure of a UAH or partner community college nursing course for any reason will result in dismissal from the Dual Program. Dismissal from the Dual Program does not prohibit students from applying to the RN-BSN program after earning an Associate's Degree in Nursing and RN license.

Dual ADN/BSN Curriculum (beginning 5th semester)

UAH College of Nursing partners with several area community colleges to offer the Dual ADN/BSN degree. Each partner community college has an individualized program of study. Please see the link below to access the program of study with your partner community college.

Calhoun Community College Dual Program of Study (https://www.uah.edu/images/colleges/nursing/files/pdfs/uah_ccc_dual_plan_of_study.pdf)

Northeast Alabama Community College Dual Program of Study (https://www.uah.edu/images/colleges/nursing/files/uah_nacc_dual_program_of_study.pdf)

Motlow Community College Dual Program of Study - pending approval

Nursing, RN-BSN

BSN, Licensed RN track

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	

EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	

MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

CH 151 and CH 155 are the preferred Chemistry courses.

* Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Code	Title	Semester Hours
Pre Professional Courses		18
Courses in this area may also fulfill Charger Foundations requirements.		
BYS 214	INFECTION & IMMUNITY	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
BYS 216	HUMAN ANATOMY & PHYSIOLOGY II	
GENL 101	GENERAL TRANSFER CREDIT	
Choose one:		
PY 300	PSYCHOLOGICAL STATISTICS	
SOC 303	STATISTICS/SOCIAL SCIENCES	
MSC 287	BUSINESS STATISTICS I	
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	
Total Lower Division Semester Hours		59-60

RN-BSN Upper Division Courses (all online)

In order to be considered to the upper division nursing major, students must be accepted to the University and currently possess an unencumbered RN license.

Code	Title	Semester Hours
NUR 339	INFO MGMT IN HEALTHCARE	3
NUR 410	TRANSITION INTO PROFESS ROLES	3
NUR 413	LEADERSHIP PROF NURS PRACT	5
NUR 417	NURS CARE VUL POP	4
NUR 421	AC CARE FOR PROFESSIONAL NURSE	3
NUR 422	COMMUNITY HEALTH FOR PROF NURS	5
NUR 423	EVID BASED PRACTICE PROFESS NU	3
NUR 000	NURSING-CREDIT BY VALIDATION	45
Credit received for completion of Registered Nursing degree up to 45 validation hours.		
Total Semester Hours		26

Admission of RN-BSN Students

- Prospective students should refer to the program website at <https://online.uah.edu/programs/rn-to-bsn.aspx> to determine eligibility for the online program based on state residency and work location.
- Admission to the RN-BSN track requires admission to the University as well as the following minimum requirements:
 - Minimum cumulative grade point average (GPA) of 2.0.
 - Graduation from an accredited associate degree nursing program or a diploma program.
 - Licensure must be from an approved state. Verification of your states eligibility is provided by the College of Nursing.
- Registered nurse students must possess an unencumbered current license and maintain this status throughout the program. A registered nurse student will not be allowed to continue in the program if the nursing license is placed on probation, suspended, or revoked status.

Progression and Graduation Standards

- Outstanding co-requisite courses may be completed while taking nursing courses. However, it is advised that outstanding co-requisite courses be completed prior to beginning the curriculum.
 - 12 of the last 18 credit hours must be completed at UAH to be awarded a degree
- A minimum grade of "C" or above must be earned in all required nursing courses and any outstanding co-requisite courses.
 - UAH College of Nursing adheres to the following grade scale:
 - A = 90 - 100
 - B = 80 - 89
 - C = 75 - 79
 - D = 60 - 74
 - F <60
- An overall "C" (2.0) grade point average (GPA) is required for graduation.

4. A student who receives two or more grades below "C" in required nursing courses, in either the same course or in separate courses, at any time during the program will be dismissed from the College of Nursing. Retroactive withdrawal or other related progression decisions from courses after academic dismissal from the nursing program does not result in a reversal of the dismissal.
5. Students may withdraw from the same course twice. After the second withdrawal, the student either earns a grade or withdraws from the program.

RN-BSN (All Classes Online)

Fall		Semester Hours
NUR 410	TRANSITION INTO PROFESS ROLES (Must be first course) ^{*Offered every semester}	3
NUR 413	LEADERSHIP PROF NURS PRACT	5
NUR 417	NURS CARE VUL POP	4
NUR 000	NURSING-CREDIT BY VALIDATION (45 hours applied at no cost)	45
Term Semester Hours:		57
Spring		
NUR 422	COMMUNITY HEALTH FOR PROF NURS	5
NUR 423	EVID BASED PRACTICE PROFESS NU	3
Term Semester Hours:		8
Summer		
NUR 339	INFO MGMT IN HEALTHCARE	3
NUR 421	AC CARE FOR PROFESSIONAL NURSE	3
Term Semester Hours:		6
Total Semester Hours:		71

College of Professional Studies

148 Wilson Hall

Telephone: 256.824.6013

Email: CPSDeansOffice@uah.edu (cpsdeansoffice@uah.edu)

Mission

The mission of the College of Professional Studies (CPS) is to increase student enrollment and retention; enhance and diversify academic offerings through quality interdisciplinary undergraduate programming; respond quickly and responsibly to workforce development needs; and promote and expand lifelong learning opportunities.

Degrees

Bachelor of Arts in Professional Studies

Bachelor of Science in Professional Studies

The Bachelor of Arts or Bachelor of Science in Professional Studies (BPS) offers a flexible, well-rounded interdisciplinary curriculum that provides students the opportunity to expand their knowledge base across an array of academic disciplines to meet their individual goals. Students will learn how to communicate effectively, make informed decisions, and build analytical and critical thinking skills. The BPS degree can be completed fully online, in the classroom, or a combination of both.

Concentrations are offered in the following areas:

- Engineering Technology
- Leadership Strategies and Dynamics
- Organizational Studies
- Technology Science and Society
- General Studies

Admissions

Freshman Students

Applications should be submitted through the Office of Admissions. Each applicant is evaluated based on individual merit and demonstrated success in a rigorous academic environment.

Transfer Students

UAH accepts credits awarded from institutions accredited by one of the regional agencies recognized by the American Council on Education (ACE).

Credits transferred in from an accredited junior, community, or two-year institution can be applied for up to 50% of the degree requirements. Credits transferred in from an accredited four-year institution can be applied for up to 75% of the degree requirements. Transfer credit may also include ACE approved military training.

The College of Professional Studies is a partner with the Community College of the Air Force (CCAF) through the Air University Associate to Baccalaureate Cooperative (AU-ABC), which allows the application of up to 60 earned hours from any CCAF degree program to an approved BPS degree concentration.

The College can also accept up to 34 hours of technical credits awarded by an accredited institution which will be applied to the student's plan of study as elective credit. Technical credits count as part of the maximum number of credits accepted from junior, community, or two-year institutions. Technical credit may not be used to satisfy degree requirements such as general education, degree core requirements, or concentration requirements.

Students should provide an official transcript sent directly to the UAH Admissions office. Transfer credit will be applied as appropriate and at the discretion of the College.

Technical Requirements

All students in Professional Studies (freshmen or transfer) are required to have their own computer and access to a sufficient internet connection for participating in online instruction and completing assignments/projects/tests.

College of Professional Studies Academic Advising

To schedule an appointment with a College of Professional Studies academic advisor, click here. (<http://www.uah.edu/academic-advising/>)

Kellee Crawford, B.A., M.A.

149 Wilson Hall

256-824-6673

Email: CPSAdvising@uah.edu (cpsadvising@uah.edu)

Accreditation

The University of Alabama in Huntsville has institutional accreditation from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, masters, and doctoral degrees.

The College of Professional Studies offers the following degree programs:

Bachelor of Arts or Science in Professional Studies, Leadership Strategies and Dynamics Concentration (p. 545) (<https://catalog.uah.edu/undergrad/colleges-departments/professional-studies/bachelors-ps/>)

Bachelor of Arts or Science in Professional Studies, Organizational Studies Concentration (p. 545)

Bachelor of Arts or Science in Professional Studies, Technology Science & Society Concentration (p. 545)

Bachelor of Arts or Science in Professional Studies, General Studies Concentration (p. 545)

Bachelor of Science in Professional Studies, Engineering Technology Concentration (p. 545)

Bachelor of Science in Engineering Technology

Engineering Technology

Prepare to establish yourself as a successful, practicing Engineering Technologist. Graduates will use their math, science, and engineering skills to design products and systems, install and maintain products, and provide a wide range of services, such as implementation of the design, testing, calibration, and supervision of its operations.

Organizational Studies

Prepare for careers that involve finding solutions to human problems in organizations and communities. Coursework will focus on business (emphasis on management and information systems) and humanities/social sciences (emphasis on communications, philosophy, political science, psychology, education, and/or sociology). The curriculum will include organizational theory and behavior, professional ethics, management, information systems, individual and group dynamics, and communication skills. Students will acquire an understanding of human behavior in groups, organizations, and larger systems.

Leadership Strategies and Dynamics

Develop an understanding of foundational leadership theory in your chosen context. Focus on the nature of leadership in a variety of settings and prepare for leadership responsibility in the community and in your selected profession. Coursework will focus on business (emphasis on leadership and management) and social sciences/humanities (emphasis on communications, history, philosophy, political science, psychology, and/or sociology).

Courses will provide an educational experience in theories of motivation, leadership styles, organizational and group behavior, professional ethics, communication, theories of cultural difference and multicultural communication, human resources, and/or budgeting.

Technology, Science and Society

Integrate the study of science, engineering, and/or technology with its social and cultural impact on humanity. Focus on developing a broad understanding of the technical, historical and social dimensions of science and technology. Curriculum options include engineering, the natural sciences, computer science, information sciences, business, the social sciences, and/or humanities. The curriculum provides an interdisciplinary approach to explore the significance, challenges, and effects that science and technology present to society. Courses allow students to incorporate technical scientific knowledge with analytical thinking from a social perspective.

General Studies

Design a curriculum to best support your professional and personal interests. Coursework places a priority on interdisciplinary studies, critical analysis, oral and written communication, ethics, and teamwork. It allows students to fulfill general education credits, study relevant topics, develop versatile skill sets, and prepare for a wide range of career options.

Engineering Technology (ET) (p. 538) | Professional Studies (PRO) (p. 539) | Specialized Courses (p. 541)

Engineering Technology (ET) Courses

ET 301 - ENGINEERING TECH FNDNS I

Semester Hours: 3

An introduction to the Engineering Technology profession, resources and skills. Students will learn about engineering design, communication, professional ethics, and basic principles and physical laws used to understand and solve engineering related problems. Prerequisites: MA 113 or higher, EH 102 or EH 105 and PH 102 or higher.

ET 302 - ENGINEERING TECH FNDNS II

Semester Hours: 3

A follow-on to ET 301, the course introduces the Engineering Technology profession, resources and skills. Students will learn about computational engineering tools, graphical communication, characteristics of materials, in addition to the mathematical and statistical methods used to understand and solve engineering-related problems. Co-requisite: ET 301 (Grade of C- or better).

ET 305 - ENGINEERING COMMUNICATION

Semester Hours: 3

Students will learn to communicate professionally in an engineering/technical environment. Students will develop written communication such as letters, memos, reports and proposals, create clear process descriptions and instructions, and deliver persuasive and effective oral presentations. Prerequisite: EH 102 or EH 103 or EH 105.

ET 310 - COMPUTER-AIDED DESIGN

Semester Hours: 3

An introduction to Computer-Aided Design (CAD) using Creo Parametric. Covers basic concepts of 3D modeling techniques and frequently used commands required to advance from a novice to an intermediate user level of Creo Parametric. Prerequisite: ET 302 or PRO 332 (grade of C- or better), or special permission. MAE 211 accepted as a substitute. PRO 333 or ET 310 does not substitute for MAE 211.

ET 314 - QUALITY CONTROL TECHNIQUES

Semester Hours: 3

This course will blend statistical quality control concepts and hands-on training in the methods, standards and guidelines currently being used for industrial quality control includes quality management systems such as ISO 9000 and Six Sigma and the design and application of control charts. Prerequisite: MSC 287 or equivalent (grade C- or better).

ET 334 - PRINCIPLES OF STATICS

Semester Hours: 3

Develop an undertaking of the principles of statics. Topics include resultant and equilibrium of noncurrent and concurrent forces, force analysis of structures and machines, force systems in space, friction, centers of gravity, centroids, and movement of inertia of areas. Prerequisites: ET 302 or PRO 332, MA 171, ENG 101 or equivalent and PH 101. PRO 334 or ET 334 can not be used as a substitute for MAE/CE 271.

ET 335 - STRENGTH OF MATERIALS

Semester Hours: 3

Comprehend and compare the behavior of solid objects subjected to various stresses and strains. Topics include stress and strain for axial loads, shear stresses and strains in torsion members, bending and deflection of beams, combined stress using Mohr's circle columns, and structural connections. Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 336 - PRINCIPLES OF DYNAMICS

Semester Hours: 3

Learn the principles of Dynamics based on two broad areas of study, Kinematics and Kinetics. Kinematics is the study of the geometry of motion. Kinetics is the study of the relation between the forces acting on a body, the mass of the body, and the motion of the body. Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 341 - ELECTRICAL CIRCUITS & SYSTEMS

Semester Hours: 3

This course introduces the major topics related to electrical circuits and systems and demonstrates how electrical engineering concepts are applied in other fields and everyday products. Topics include basic circuit analysis, digital systems, electronic devices and circuits, and electromechanics. Prerequisites: ET 302 or PRO 332 (grade of C- or better), MA 171, PH 102, ENG 101 or equivalent, MSC 287 or equivalent.

ET 431 - FUNDAMENTALS OF MANUFACTURING

Semester Hours: 3

This course introduces the fundamentals of manufacturing, examining the selection and use of various materials, processes, and systems. Prerequisites: (ET 310 or PRO 333 or MAE 201) and (ET/PRO 341 or EE 213) and (ET/PRO 335 or MAE 370 or CE 370).

ET 433 - INSTRUMENTATION & MEASUREMENT

Semester Hours: 3

This course introduces valuable topics that an engineering technologist needs to master in order to design measurement and instrumentation systems. Topic areas include the essential general characteristics of instruments, electrical measurement systems, and computerized data acquisition systems. Prerequisites: (ET/PRO 335 or CE 270 or MAE 370) and (ET/PRO 341 or EE 213). Co-Requisite: ET 434 lab required.

ET 434 - INSTRUMENT & MEASUREMENT LAB

Semester Hour: 1

Prepares students to design experimental projects and measurement systems. Topics include the essential characteristics of instruments, electrical measurement systems, and computerized data acquisition systems. Co-requisite: ET 433.

ET 495 - INTERNSHIP FOR ENG TECHNOLOGY

Semester Hours: 1-3

Provides hands-on experience in an engineering-technology field. The experience must include a suitable academic component evaluated by a faculty-advisor. Students must complete the internship approval process and be registered for the internship prior to the start of the internship. Prerequisites: ET 305, ET 335.

ET 498 - PROJECT MANAGEMENT FOR ET

Semester Hours: 3

Acquire the basics of project management including planning, managing cost, schedule, and scope of a project in a risk-filled environment over a project lifecycle. This is the first of a two-semester capstone progression. ET 498 must be taken the semester before ET 499. Prerequisites: PRO 310, ET 305, ET 310, ET 314, ET 335, ET 341 (All with grades of C- or better).

ET 499 - CAPSTONE FOR ENGINEERING TECH

Semester Hours: 3

In this capstone course students demonstrate their ability to apply both technical and non-technical skills in solving problems appropriate to the discipline including: designing components, systems and/or processes, conducting tests, communicating results, and functioning effectively on teams. Prerequisite: ET 498.

Professional Studies (PRO) Courses

PRO 101 - INTRO COLLEGE ACADEMY

Semester Hours: 3

Focus is on learning theory, discovering learning style preferences and appropriate, effective study methods, understanding the issues facing college students today and strategies to overcome them, learning about available campus academic and student support resources and how to utilize them improving oral and written communication skills. Identifying UAH academic organizations and recognizing the importance of involvement and developing the skills. Must be part of College Academy. May not be used for Charger Foundations.

PRO 280 - PRIVATE PILOT GROUND SCHOOL

Semester Hours: 3

Prepares student for FAA Private Pilot written examination. Provides student with necessary knowledge to progress into primary pilot flight training. A kit for approximately \$150 must be purchased.

PRO 301 - THRY & PRAC ADULT LEARNING

Semester Hours: 3

This course presents an overview of five foundational learning theories and related research in adult education and development. The conceptual framework is centered on discovering what motivates the adult learner and the impact social perspectives have on adult learning through analysis and discussion. Students will define competencies needed for success in academic study and professional leadership, in setting educational goals, and in planning a learning experience to achieve them. Emphasis is placed on issues unique to adult re-entry students and the university services available to support nontraditional students.

PRO 310 - ACADEMIC WRITING PROFESS STUDI

Semester Hours: 3

Students will learn academic writing skills by engaging in the process of academic inquiry and argument. The course will cover a broad perspective of writing by exploring various writing and research styles used through different academic professions. Prerequisites: EH 102 or EH 105.

PRO 320 - INDS PERSPECT & CRITICAL THNKG

Semester Hours: 3

Interdisciplinary studies fosters foundational knowledge acquisition by which individuals draw on multiple disciplinary perspectives and integrate their insights and modes of thinking to advance the studies and the fundamental development of critical and analytical thinking skills. Complex issues are addressed from multi-faceted perspectives that stimulate problem solving, problem defining and problem posing. Emphasis is placed on how to synthesize evidence drawn from multiple sources as a basis for informed decision-making.

PRO 321 - MEDIA LITERACY

Semester Hours: 3

Investigate the interdisciplinary nature of 21st-century media. Students analyze the combined influence of production methods, semiotics, politics, ethics, and psychology on our critical understanding of advertising, propaganda, conspiracy theories, social media, and the Internet of Things. Prerequisite: EH 102.

PRO 322 - TECHNOLOGY, SCIENCE & SOCIETY

Semester Hours: 3

Apply critical thinking and conceptual tools to understand implications of technology and science on society by examining scientific facts, social impacts or new technology, and benefits and risks of rapid changes through an interdisciplinary theoretical framework. Prerequisite: EH 102.

PRO 325 - INDS RESEARCH & APPLICATIONS

Semester Hours: 3

Interdisciplinary research is a contemporary decision-making process for transcending the scope of a single discipline or program to develop insights that offer bold advances in knowledge, solutions to urgent societal problems, an edge in technological innovations, and a more integrative knowledge of multidisciplinary theories and concepts. This course introduces the primary drivers for interdisciplinary research and examines the interdisciplinary research process. Students will apply an integrated model for conducting research that draws on multiple disciplines. Prerequisites: PRO 310 and PRO 320.

PRO 398 - SPEC TOPICS: INTERDISC STUDIES

Semester Hours: 3

Course uses an interdisciplinary approach to draw on intersecting and divergent knowledge from a variety of scholarly disciplines in order to create an in-depth and multi-faceted understanding of a particular instructor chosen issue, topic or problem. Prerequisite: EH 102.

PRO 399 - INDEP STUDY: INTERDISC STUDIES

Semester Hours: 3

Course allows individual students to pursue an interdisciplinary topic of interest which is not otherwise available and may involve any combination of readings assignments, tutorials, lectures, papers, presentations, or field/laboratory study (determined in consultation with instructor). Prerequisite: PRO 325.

PRO 498 - INQUIRY AND LEARNING

Semester Hours: 3

Inquiry-based learning accelerates understanding, fosters critical thinking skills, and facilitates self-direction and discovery. Using this method, students will identify an interdisciplinary problem related to their approved concentration area, perform the foundational research, and formulate a research proposal. This is the first of a two-semester progression to complete a Capstone research thesis/project in PRO 499. Prerequisite: PRO 325.

PRO 499 - CAPSTONE EXP: RSCH THESIS/PROJ
Semester Hours: 3

Students majoring in Professional Studies are required to complete a senior research thesis in their approved interdisciplinary concentration. This Capstone course requires the student to demonstrate his/her ability to integrate the core knowledge and skills gained in their interdisciplinary areas of study using inquiry-based learning methods. Research is conducted and a thesis-style paper is written and orally presented. Prerequisite: PRO 498 with minimum grade of C-.

Specialized Credit Courses

UAH offers specialized credit courses that support various educational partnerships. The following courses have distinct admission and registration requirements. For details, email CPSprograms@uah.edu, phone 256.824.2808, or visit [CPS.uah.edu/USSRC](https://www.uah.edu/pcs/conferences-special-programs/ussrc-partnership/) (<https://www.uah.edu/pcs/conferences-special-programs/ussrc-partnership/>).

ESS 100 - INTRODUCTION TO SPACE SCIENCE
Semester Hour: 1

Covers physiology in space, computer systems, and materials in space, robotics, thermodynamics, astrophysics, and solar physics. Laboratory experiments and simulated missions. Offered in cooperation with the U.S. Space & Rocket Center. Prerequisite: Available only to high school students with U.S. citizenship enrolled in Advanced Space Academy®.

ENG 105 - INTRODUCTION TO AERONAUTICS
Semester Hour: 1

Introduction to a variety of aviation subjects, including flight physiology, computer systems, aerodynamics, aeronautics, jet propulsion, thermodynamics, navigation, and survival skills. Lectures and simulated missions. Offered in cooperation with U.S. Space & Rocket Center. Prerequisite: Available only to high-school students with U.S. citizenship enrolled in Aviation Challenge® Mach III.

Registration (p. 541) | Professional Development (p. 541) | Outreach & Events (p. 543) | Osher Lifelong Learning (p. 543)

Non-Credit Programs

UAH College of Professional Studies (CPS) provides access to quality education and training for individuals; partners with businesses and government for workforce development; enhances public awareness of the instructional and research strengths of the University; promotes lifelong learning fostering continued growth, human fulfillment, and positive social change; and supports economic development throughout North Alabama. These objectives are carried out through the following programming departments: Professional Development Solutions, Conferences and Special Programs, Osher Lifelong Learning Institute, Testing and Certification Services, and Internal Testing. For more information about CPS programs, visit [CPS.uah.edu](https://www.uah.edu/pcs/) (<https://www.uah.edu/pcs/>).

CPS Registration Services

103 Wilson Hall
Telephone: 256.824.6010 or 800.448.4031
FAX: 256.824.6760
Email: CPSreg@uah.edu

UAH College of Professional Studies (CPS) Registration Office provides registration services for non-credit programs and select credit courses. Registration options include online, phone, fax, or in person. There is no formal application process for non-credit courses and enrollments are taken throughout the year. Transcripts for continuing education units (CEUs) are available upon written request for a \$5 fee per transcript. Visit [CPS.uah.edu](https://www.uah.edu/pcs/) (<https://www.uah.edu/pcs/>) for registration information and related policies.

Professional Development Solutions

113 Wilson Hall
Telephone: 256.824.4430
Email: pdsolutions@uah.edu

Mission

Professional Development Solutions (PDS) develops and presents professional training and educational activities in areas including data science, data analytics, management, engineering, cybersecurity, information technology, leadership, certification exam preps, and other professional skills. PDS programs complement the participant's educational degree and validate professional capabilities. Programs are designed to allow a participant the choice of attending individual courses of interest or completing a more structured certificate program leading to a Certificate of Professional Achievement. Programs are offered in an atmosphere conducive for meeting professional training needs, and available in various formats such as classroom, live-virtual online, online on-demand, and blended. CPS maintains state-of-the-art computer labs and classrooms, and its instructors are known and respected industry practitioners and researchers in their respective fields.

Visit pdsolutions.uah.edu (<https://pdsolutions.uah.edu/>) (<http://pdsolutions.uah.edu/>) for the current schedule of course offerings.

DATA SCIENCE AND DATA ANALYTICS

Applied Machine Learning
Basic Business Statistics
Data Analytics and Visualization
Data Visualization Using Tableau®
High-Performance Computing (HPC) Foundations
Modern Data Analytics
R Programming
SQL for Data Science

CYBERSECURITY

A+
Certified Ethical Hacker (CEH™)
Certified Information Systems Security Professional (CISSP®)
CompTIA® Advanced Security Practitioner (CASP+)
Linux+
Network+
Security+

EXAM PREPS

A+
Certified Associate in Project Management (CAPM®)
Certified Systems Engineering Professional (CSEP)
FAA Drone Pilot License Exam Prep
Private Pilot Ground School

MANAGEMENT AND LEADERSHIP

Basic Business Statistics
CAPM® Certification Bootcamp
Critical Thinking and Problem Solving
Earned Value Management
Emotional Intelligence
Federal Contract Management
Government Technical Evaluation of Proposals
Leadership and Management Skills
Master Logistician
Project Management
Strategic Decision Management

ENGINEERING

ASEM® Certification Exam Prep
Computer-Aided Design
Digital Engineering
DOORS® - Requirements Management Application
Hypersonic Aerodynamics
MATLAB for Engineers and Analysts
Missile Guidance, Navigation, and Control
Missile Systems
Model-Based Systems Engineering with SysML
Modeling and Simulation
Nitrous Decomposition Hazards
Rocket Propulsion
Rotorcraft
Systems Engineering
Systems Thinking: Problem-Solving Tools and Techniques
Test and Evaluation

Unmanned Aerial Vehicles (UAVs)

INFORMATION TECHNOLOGY

C++ Developer
Computer-Aided Design
DevOps
DevSecOps
Java Developer
Linux
Machine Learning
Master Programmer
Microsoft Office
Object-Oriented Programming
PowerShell
Python Developer
QuickBooks
SQL
Web Developer

PROFESSIONAL SKILLS

Aerial Photography and Mapping for Unmanned Aircraft Systems (UAS)
FAA Drone Pilot License Exam Prep
Interior Design
Presentation Skills
Teambuilding
Technical and Business Writing

Customized Training

UAH's customized training solutions offer organizations ways to seize new opportunities and systematically address key problems. Professional Development specialists work directly with corporate, government, and professional organizations to develop high-quality certificate programs and short courses that meet specific training goals. These programs can be offered on-site, on campus, or via online learning (virtual or on-demand). Through targeted learning experiences and Subject Matter Experts who have front-line, real-world experience, the individual or team can bring new tools and competencies back into the organization, providing an immediate on-the-job impact.

Outreach and Events

105 Wilson Hall
Telephone: 256.824.2808
Email: CPSprograms@uah.edu (<http://catalog.uah.eduemailto:CPSprograms@uah.edu>)
Fathia Hardy, Director of Outreach and Support Services

The Outreach and Event Management unit embodies collaborative projects and mutually beneficial partnerships among The University of Alabama in Huntsville and external groups that enrich both our academic and research missions and the communities we serve. Our management team hosts and co-hosts various conferences, training sessions, symposiums, continuing education, special events, meetings, and workshops. Visit [CPS.uah.edu/Conferences \(https://uah.edu/pcs/conferences-special-programs/\)](https://uah.edu/pcs/conferences-special-programs/) for current information.

Osher Lifelong Learning Institute (OLLI)

111 Wilson Hall
Telephone: 256.824.6183
Email: OLLI.info@uah.edu
Clay Williams, OLLI Program Manager

Mission

The Osher Lifelong Learning Institute (OLLI) and the College of Professional Studies partner to provide lifelong learning courses and enrichment activities designed to fulfill the educational needs of adults age 50+. OLLI at UAH is a member-led, non-profit, volunteer-based organization that advances the educational, cultural, and social interests of its members by sponsoring courses, socials, bonus presentations, industrial tours, and travel opportunities designed to fit the interests and needs of its members. CPS supports OLLI's efforts by providing support services and intellectually stimulating on-campus and virtual environments that support adult lifelong learning and enhance community outreach.

Curriculum

Courses offered in a wide range of subject areas:

Arts and Music
 Finance and Economics
 Foreign Languages
 Health and Fitness
 History and Government
 Information Technology
 Leisure, Games, and Nature
 Literature and Writing
 Psychology, Philosophy, and Sociology
 Science and Mathematics
 Skills and Hobbies
 Travel
 OLLI Alabama Shares

We offer three terms a year, including a mini-term in the summer. Most courses meet 1.5 hours per class, once a week, for 4-8 sessions. We also offer courses in our popular "OLLI After Five" format. OLLI courses are taught by qualified volunteer instructors. Courses are not graded, and no tests are administered. Visit [Osher.uah.edu](https://uah.edu/pcs/olli/) (<https://uah.edu/pcs/olli/>) for current information.

Testing and Certification Services (p. 544) | Instructional and Testing Services (p. 544)

Testing and Certification Services

214 Wilson Hall
 Telephone: 256.824.6373
 Email: TaCS@uah.edu
 Maria Bricker, Assistant Director

Mission

The University of Alabama in Huntsville Testing and Certification Services (TaCS) unit is committed to providing exceptional, accessible, and comprehensive testing services for students, graduates, professionals, and individuals from our surrounding communities. As a certified center of the National College Testing Association (NCTA), we are dedicated to upholding high standards of security and academic integrity by maintaining and adhering to their Standards and Guidelines.

Tests

The TaCS office offers numerous testing opportunities to include:

ACT
 Alabama State Dept of Insurance Exam
 CLEP/DANTES
 GRE
 HESI
 Kryterion
 MAT
 National Center for Competency Testing
 Pearson VUE Testing
 Proctored Exams
 PROV
 Residual ACT
 SAT
 Scantron

Visit [CPS.uah.edu/TaCS](https://uah.edu/pcs/testing-certification-services/) (<https://uah.edu/pcs/testing-certification-services/>) for a full list of available tests, test schedule, policy and guidelines, and ways to register.

Instructional and Testing Services

225 Wilson Hall

Telephone: 256.824.6725

Email: testing@uah.edu

Maria Bricker, Assistant Director

Website: uah.edu/testing (<https://uah.edu/testing/>)

Instructional and Testing Services provides high-quality test administration and assessment services for UAH faculty and students. It subscribes to and abides by the professional standards and guidelines for post-secondary test centers, as adopted by the National College Testing Association. Instructional and Testing Services offers a variety of services for UAH instructors and students including Online Learning exams, proctoring make-up exams, and deferred finals.

Bachelor of Professional Studies

Bachelor of Professional Studies degree requires 120 hours:

- MA 120 or higher is required to earn a Bachelor of Science.
- BPS degree requires 120 credit hours and an overall minimum 2.0 GPA.
- 36 credit hours must be taken at the 300 or 400 level; 6 credit hours must be taken at the 400 level.
- 12 of the last 18 hours must be completed at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a 2-year college can be applied toward a UAH degree.
- A minimum grade of C is required for PRO 498 and PRO 499.

Charger Foundations (General Education Requirements)

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH	

or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY

11-12

3-4

8

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences***12**

History

3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences

6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Professional Studies Interdisciplinary Core

Code	Title	Semester Hours
PRO 301	THRY & PRAC ADULT LEARNING ¹	3
PRO 310	ACADEMIC WRITING PROFESS STUDI	3
PRO 320	INDS PERSPECT & CRITICAL THNKG	3
PRO 325	INDS RESEARCH & APPLICATIONS	3

PRO 498	INQUIRY AND LEARNING	3
PRO 499	CAPSTONE EXP: RSCH THESIS/PROJ	3

¹ PRO 301 is required for students with less than 60 hours credit and/or those who have not been enrolled in higher education for an extended period. MUST enroll during the first semester.

Interdisciplinary Concentrations (Students must select one of the following concentrations)

Code	Title	Semester Hours
Leadership Strategies and Dynamics (Total of 30 hours)		
MGT 301	MANAGING ORGANIZATIONS	
MGT 410	LEADERSHIP, PERSONAL DEV & ORG	
Leadership and Business Related Courses (Students must select 12 hours in this area)		
Arts, Humanities and Social & Behavioral Science Related Courses (Students must select 12-15 hours in this area)		
Organizational Studies Concentration (Total of 30 hours)		
MGT 301	MANAGING ORGANIZATIONS	
MGT 361	ORGANIZATIONAL BEHAVIOR	
Business Related Courses (Students must select 12 hours in this area)		
Arts, Humanities and Social & Behavioral Science Related Courses (Students must select 12-15 hours in this area)		
Technology, Science and Society Concentration (Total of 30 hours)		
PRO 322	TECHNOLOGY, SCIENCE & SOCIETY	
Science, Engineering, and/or Technology Related Courses (Students must select 15-24 hours in this area)		
Arts, Humanities and Social & Behavioral Science and Business Related Courses (Students must select 9-18 hours in this area)		
General Studies Concentration (Total of 30 hours)		
Field of Study Focus (Students must select 18 hours in this area)		
Supplemental Coursework (Students must select 12 hours in this area)		

Bachelor of Science - Engineering Technology Concentration

Bachelor of Professional Studies degree requires 120 hours:

- BPS degree requires 120 credit hours and an overall minimum 2.0 GPA.
- 36 credit hours must be taken at the 300 or 400 level; 6 credit hours must be taken at the 400 level.
- 12 of the last 18 hours must be completed at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a 2-year college can be applied toward a UAH degree.
- All Engineering Technology (ET) courses and prerequisite courses must be completed with a minimum grade of C-.

Charger Foundations (General Education Requirements)

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	

TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	

MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	

PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

*Take either 1 EH (Area II) + 2 HY (Area IV) <OR> 2 EH (Area II) + 1 HY (Area IV). Take no more than six hours in a single discipline in Area II or Area IV.

Pre Professional Requirements

Code	Title	Semester Hours
MA 171	CALCULUS A	4
EGR 101	INTRO COMPUTING ENGINEERS	3
MSC 287	BUSINESS STATISTICS I	3

Professional Studies Interdisciplinary Core

Code	Title	Semester Hours
PRO 301	THRY & PRAC ADULT LEARNING	3
PRO 310	ACADEMIC WRITING PROFESS STUDI	3
PRO 320	INDS PERSPECT & CRITICAL THNKG	3

PRO 301 is required for students with less than 60 hours credit and/or those who have not been enrolled in higher education for an extended period. MUST enroll during the first semester.

Engineering Technology

Code	Title	Semester Hours
ET 301	ENGINEERING TECH FNDNS I	3
ET 302	ENGINEERING TECH FNDNS II	3
ET 305	ENGINEERING COMMUNICATION	3
ET 310	COMPUTER-AIDED DESIGN	3
ET 334	PRINCIPLES OF STATICS	3
ET 335	STRENGTH OF MATERIALS	3
ET 336	PRINCIPLES OF DYNAMICS	3
ET 341	ELECTRICAL CIRCUITS & SYSTEMS	3
ET 431	FUNDAMENTALS OF MANUFACTURING	3
ET 433	INSTRUMENTATION & MEASUREMENT	3

Elective Courses (Total of 29-32 hours)

Additional Elective courses 100+ level to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your concentration.

Overall Requirements

All Professional Studies degrees must have at least 120 credits.

At least 36 credits of the 120 must be at the 300+ level and 6 credits must be at the 400 level.

¹Based on Math placement, a prerequisite of MA 113 may be required.

²A two course sequence of General Physics (PH 101 and PH 102) is required.

College of Science

Materials Science Building

Second Floor, C 203 - C 207

Dean's Office science.admin@uah.edu

Undergraduate Advising Office

science.advising@uah.edu

Mission

The UAH College of Science offers first-rate degree programs thanks to our award-winning faculty and state-of-the-art facilities. We provide a unique academic experience by blending a vibrant curriculum with hands-on experience.

- Devoted College and Departmental Advisors provide each College of Science student with individualized guidance to equip them with the best tools for academic success.
- Small, dedicated major classes promote quality instruction from engaged faculty in an ideal environment for peer-to-peer comradery.
- College of Science students benefit from plentiful partnership and collaboration opportunities with NASA, the Department of Defense, NOAA, the HudsonAlpha Institute of Biotechnology, and many more.

Rigorous academics and real-life experience give our students a competitive edge and a degree that offers flexibility to grow into whatever field they choose. Take the first step to discovering what your academic future holds - explore our programs.

Undergraduate Degree Programs

- BS in Atmospheric and Earth Science (p. 552)
- BS in Biological Sciences (p. 571)
- BS in Chemistry (p. 601)
- BS in Computer Science (p. 642)
- BS in Mathematical Sciences (p. 674)
- BS in Physics and Astronomy (p. 684)
- BS in Individualized Studies (p. 673)

Academic Advising

Academic Advising is the fundamental core of the College of Science. Our team of advisors is a student's first step to discovering what their academic future holds. Each advisor is equipped to provide excellent individualized guidance to prospective students, transfer students, newly admitted students, continuing students, graduating students, their families, and beyond.

All students are strongly encouraged to seek advising assistance (<https://www.uah.edu/science/academic-advising/>) at the beginning of their academic careers and to continue working with their advisors throughout their academic experience. College of Science Academic Advisors can be reached at science.advising@uah.edu.

Atmospheric and Earth Science

National Space Science and Technology Center
Cramer Research Hall, Room 4044
Telephone: 256.961.7877
Email: aes@uah.edu

Chair: Dr. John Mecikalski (<https://www.uah.edu/science/departments/atmospheric-science/faculty-staff/john-mecikalski/>)

The Atmospheric and Earth System Science department offers the following undergraduate degrees:

- Atmospheric & Earth Science, BS - Atmospheric Science/Meteorology Concentration (p. 557)
- Atmospheric & Earth Science, BS - Earth System Science Concentration (p. 563)

Program Objectives

The Department of Atmospheric & Earth Science provides academically rigorous programs to meet important national, regional, and statewide needs for highly technically-educated professionals who understand the Earth as a system and produces graduates who are able to perform a variety of functions in research centers and industry centered in our impact on the Earth system.

Learning Outcomes

Atmospheric and Earth System Science BS Graduates will:

- Demonstrate the ability to deal quantitatively with real-world problems
- Integrate knowledge from multiple disciplines to scientifically address Earth system issues quantitatively
- Work collaboratively in interdisciplinary teams
- Successfully carry out research projects to completion

- Atmospheric & Earth Science, BS - Atmospheric Science/Meteorology Concentration (p. 557)

- Atmospheric & Earth Science, BS - Earth System Science Concentration (p. 563)

- Atmospheric Science

- Earth Ecosystems (p. 570)

- Geographic Information Systems/Remote Sensing (p. 570)

- Natural Disaster Impacts and Policy (p. 571)

AES 100 - INTRODUCTION TO SPACE SCIENCE

Semester Hour: 1

Covers physiology in space, computer systems, and materials in space, robotics, thermodynamics, astrophysics, and solar physics. Laboratory experiments and simulated missions. Offered in cooperation with the U.S. Space & Rocket Center. Prerequisite: Available only to high school students with U.S. citizenship enrolled in Advanced Space Academy®.

AES 101 - EXPLORING SPACE SC & ENGR

Semester Hour: 1

Exploring Space Science and Engineering courses 1-9. Each course examines an aspect of space exploration including but not limited to space science, human factors, medicine, and engineering. Each course focuses on a single aspect. No more than three of the courses in the ESS 101 group may be taken for credit. The courses are offered through distance learning.

AES 103 - ENVIRONMENTAL EARTH SCIENCE

Semester Hours: 4

Principles and foundations of Earth and environmental science with lectures and labs on concepts in Earth system science. Applied science labs use applications and real-world examples from ecosystems, geology, soil science, water, pollution, agriculture, population, natural disasters, and energy.

AES 103L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AES 103.

AES 104 - WEATHER & CLIMATE CHANGE

Semester Hours: 4

An introduction to the atmosphere and climate system, including weather systems, climate extremes, and natural/human-induced changes in the atmosphere-climate systems. Major topics discussed include greenhouse effect, solar impacts on climate, El-Nino, climate change, atmospheric and ocean circulations, cyclones, hurricanes, thunderstorms, and tornadoes.

AES 104L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AES 104.

AES 105 - WORLD REGIONAL GEOGRAPHY

Semester Hours: 3

This course introduces the study of not only the location of places, but more importantly the physical and cultural features, economies, and population of the world's geographic regions. By exploring the interactions between people and their environment.

AES 110 - PRINCIPLES OF HUMAN GEOGRAPHY

Semester Hours: 3

This course serves as an introduction to geography as the science of location, through an emphasis on spatial patterns of human activities. The location of economic activities, location of cities as market and production centers, movement networks, and images and perceptions of landscapes form the core of the course.

AES 209 - DATA ANALYSIS TOOLS

Semester Hours: 2

Introduction to methods and techniques in data analysis for atmospheric and Earth system sciences. Using case studies and experts from multiple disciplines, students are exposed to GIS, scientific programming principles, satellite image processing, radar data and meteorological software. Course is lab-based, focused on computer software. Prerequisites: AES 103, AES 104 (minimum grade of C- required); CS 102 or CS 103 or CS 104 with concurrency.

AES 210 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

This course will investigate why some cultures succeed and others fail. From archeological and historical records of past civilizations we will examine the factors which lead to collapse in an attempt to determine the future of current societies.

AES 212 - SEVERE WEATHER ANALYSIS

Semester Hours: 4

Meteorological analysis and beginning forecasting of weather systems, severe weather, snowstorms, hurricanes, and tornadoes through the interpretation of surface, upper air, satellite, and radar weather observations. Strong emphasis placed on unique observations of severe weather from UAH radar and profiling systems.

AES 212L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in ESS 212.

AES 301 - INTRO TO EARTH & ATMOSPHERIC PHYS

Semester Hours: 3

This course will provide a survey of earth and atmospheric science for undergraduate students. Topics that will be covered will focus on how the earth-atmosphere system works in an integrated fashion. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 302 - PEOPLE, PLANTS, & ENVIRONMENT

Semester Hours: 3

This course is designed to introduce students from multiple departments to the vital roles that plants have in our ecosystems through the study of basic plant and soil science. Special attention is placed on the impact plants have on our technology-based society. Sophomore standing or above.

AES 303 - CLASSICAL & PHYSICAL CAUSES CLIMATE

Semester Hours: 3

Basic atmospheric structure and physical processes, surface processes, climate history and climate change, land use and land change, microclimates, topoclimates, Ecoclimatology. Prerequisites: AES 103, AES 104, and (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 305 - HYDROLOGY

Semester Hours: 3

Introduction to hydrologic cycles and concepts of how water interacts with the environment. Covers water properties, precipitation, groundwater and runoff, currents, waves, sediment processes, and conservation strategies. Prerequisites: AES 103, AES 104, and (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 307 - ENVIRONMENTAL ARCHEOLOGY

Semester Hours: 3

Archaeologists today need a wide range of scientific approaches in order to delineate and interpret the ecology of their sites. This approach is revolutionizing archeology making it relevant to the modern-day world. Climate modeling, remote sensing, and GIS are investigated in this course. Prerequisite: AES 103.

AES 312 - PRINCIPLES OF ECOLOGY

Semester Hours: 3

Lecture/Lab One 3 hour lab a week. Ecological principles controlling plant and animal populations. Development of ecosystems, communities and habitats. Field trips required. Strongly recommend CH 101 or CH 121. Prerequisite: BYS 120.

AES 313 - GEOGRAPHIC INFORMATION SYSTEMS

Semester Hours: 3

Introduction to scientific spatial analysis concepts and spatial data processing with focus on ESRI ArcGIS software. Basic concepts in GIS data management and creation, with topics including raster and vector data, projections, data query, data acquisition, and cartography. Prerequisites: AES 103 and choose 1: CS 102, CS 103, or CS 104.

AES 321 - POLLUTION PROBLEMS

Semester Hours: 3

Quantitative study of environmental conditions, processes, and problem-solving techniques related to specific pollution problems in air, water, and land. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), (CH 101 or CH 121), and (PH 101 or PH 111).

AES 341 - THERMODYNAMIC METEOROLOGY

Semester Hours: 3

Introduction to atmospheric thermodynamics with an emphasis on applications in meteorology, including the equation of state, Zeroth, First and Second Laws of Thermodynamics, adiabatic processes, moist processes, static stability, stability of moist air, and severe weather applications. Prerequisites: AES 209, AES 212, AES 301 and Choose 1: CS 102, CS 103, or CS 104. Prerequisites with concurrency: MA 201, PH 112.

AES 351 - DYNAMIC METEOROLOGY

Semester Hours: 3

Dynamics and kinematics of atmospheric flow. Meteorological coordinate systems. Fundamental governing equations of atmospheric motion, circulation, and vorticity. Prerequisites: PH 111, AES 301, Choose 1: CS 102 or CS 103 or CS 104. Prerequisites with concurrency: MA 201.

AES 352 - SYNOPTIC METEOROLOGY

Semester Hours: 3

Analysis, interpretation, and forecasting synoptic-scale and mesoscale phenomena, including air masses, frontal systems, cyclones, anti-cyclones, tropical cyclones, and associated mesoscale phenomena. Emphasis is placed on the use of remote sensing data from satellites, radars, and profilers using state-of-the-art workstations. Prerequisites: AES 212, AES 341, AES 351.

AES 370 - INTRODUCTION TO REMOTE SENSING

Semester Hours: 3

This course introduces the fundamental physics of remote sensing systems and incorporates hands-on exercises of image processing, information extraction and interpretation, and basic applications of airborne and satellite data in Earth System Science and Atmospheric Science. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), (PH 101 or PH 111), and (CS 102 or CS 103 or CS 104).

AES 402 - SCI & SOC ASPTS NATRL DISASTER

Semester Hours: 3

Students will understand causes of major natural events and evaluate effects of disasters on populations and possible mitigation measures. GIS software will be used to show progression of events and/or their impacts using course case studies. Prerequisites: AES 103 and AES 104.

AES 407 - ENV THRTS, PUB POLY, & DEC MKG

Semester Hours: 3

Researchers, policymakers, and environmental campaigners have identified twenty-five potential future threats to the global environment. This course examines the nature and consequences of these threats and their potential impacts for the survival of the human race. Prerequisite: AES 103.

AES 408 - PYTHON FOR GIS

Semester Hours: 3

Introduction to GIS model building, Python programming, and automation of scripts for ArcGIS. Techniques in Model Builder, Python, and the methods for automation will be taught using data from numerous available data sources across the internet with heavy emphasis on the Earth Sciences. Prerequisite: AES 313.

AES 409 - SCI PROGRMNG FOR EARTH & ATMOS

Semester Hours: 3

Survey of data types and languages commonly used in the meteorological community along with practical applications to meteorology. Course is designed to prepare students for graduate work and research in atmospheric science. Prerequisite: (CS 102 or CS 103 or CS 104); AES 301; MA 172; (PH 112 and PH 115).

AES 410 - OPERATIONAL WEATHER FORECAST'G

Semester Hours: 3

Subjective and objective methods of atmospheric prognosis. Techniques for forecasting critical weather elements. Interpretation, use and systematic errors of computer-generated products, human factors with forecasting, and application of meteorological theory in an operational setting. Prerequisites: AES 341, AES 351, AES 352.

AES 414 - GEOSPATIAL APPLICATIONS

Semester Hours: 3

An introductory look at the ways in which GIS can be put to use in different fields of study, drawing examples from Demography, Sociology, Archaeology, History, and Ecology. Focus on cartography and map creation principles and public geospatial data acquisition. Prerequisite: AES 313.

AES 415 - ADVANCED TOPICS IN GIS

Semester Hours: 3

Advanced continuation of concepts applied in Geospatial Applications. Students will learn through modules of real world scientific research how to use further tools in ArcGIS including: 3D Analyst, Spatial Analyst, Network Analyst. Topics include web data dissemination, spatiotemporal analysis and some basic spatial statistics measures. Prerequisite: AES 414.

AES 420 - INTRO ATMOSP CHEM & AIR POLLU

Semester Hours: 3

This self-contained introductory course in atmospheric chemistry and air pollution is designed to provide students the basics of atmospheric chemistry and air pollution concepts. Topics include air pollutants, air-pollution meteorology, atmospheric gases and aerosols, and atmospheric processes. Prerequisites: AES 301, AES 321, PH 112, PH 115, CH 121, CH 125.

AES 441 - ATMOSP THERMODY & CLOUD PHYSIC

Semester Hours: 3

General aspects of thermodynamics and cloud physical processes occurring within the atmosphere; atmospheric statics and stability, saturation point analysis, aerosols, nucleation, and the behavior/growth of cloud particles and hydrometeors. Prerequisites: AES 341, MA 238, PH 112 and PH 115.

AES 451 - ATMOSPHERIC FLUID DYNAMICS I

Semester Hours: 3

Fluid dynamics in the atmosphere. Coriolis acceleration, scale analysis and appropriate approximations of the complete governing equations. Numerical analysis and interpretation of weather phenomena. Same as ATS 451. Prerequisites: AES 351, MA 238, PH 112 and PH 115.

AES 454 - FORECASTING MESOSCALE PROC

Semester Hours: 3

Detection and forecasting of atmospheric mesoscale phenomena including the structure and evolution of clouds, precipitation (including floods), thunderstorms, and severe weather. Includes basics of instruments used to detect mesoscale phenomena, most notably satellite and radar. Prerequisite: AES 352.

AES 461 - ATMOSPHERIC RADIATION I

Semester Hours: 3

Fundamentals of terrestrial atmospheric radiation. Topics include: basic concepts, radiative transfer equation, gaseous absorption, scattering by molecules and particles, band models, transmittance along an inhomogeneous path. Prerequisite: AES 301, MA 238, PH 112 and PH 115.

AES 471 - RADAR METEOROLOGY

Semester Hours: 3

Introduction to principles of radar meteorology, including radar operations, hardware, interpretation and analysis. Doppler, dual-polarization and dual-wavelength radar theory, methods and applications are covered. Prerequisites: AES 341, AES 408, AES 409.

AES 472 - SATELLITE METEOROLOGY

Semester Hours: 3

The goal for this course is to provide students in undergraduate and graduate-level Earth and Atmospheric Science a background in satellite meteorology. During all components of the course there will be a heavy emphasis on practical meteorological satellite interpretation with respect to land surface and especially atmospheric features. Prerequisites: AES 212 and AES 301. Prerequisites with Concurrency: AES 408 or AES 409.

AES 490 - SPEC TOPICS EARTH & ATMOSPH SC

Semester Hours: 1-3

Special offerings to students in areas of interest not covered in the present curriculum. Prerequisite: permission of instructor.

AES 495 - DIRECTED STUDY

Semester Hours: 2-4

Supervised special study topics for undergraduates; often is offered to undergraduates who have senior standing. Individual students identify and obtain consent from a faculty mentor.

AES 497 - UNDERGRADUATE INTERNSHIP

Semester Hours: 3

Individual internships in fields directly related to atmospheric or Earth system science. Student must show acceptance into a formal internship program, and the course requires approval by department chair and consent by the internship supervisor.

AES 498 - RESEARCH & PROF DEV CAPSTONE

Semester Hour: 1

Applied concepts for professional and research development. Includes evaluation and discussion of published literature and department seminars, with focus on research synthesis and critique. Also includes development of professional and career skills focused on the Earth and Atmospheric Sciences. Junior or senior standing required.

AES 499 - UNDERGRADUATE RESEARCH

Semester Hours: 2-4

For advanced earth system science students. Individual investigations into earth systems science problems under direct supervision of a research mentor. Research is conducted and thesis-style paper is written and orally presented. Students identify and obtain consent from a faculty research mentor. Prerequisite: AES 498.

Atmospheric and Earth Science, BS - Atmospheric Science/ Meteorology Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6

EH 207	READINGS LITERATURE/CULTURE I
EH 208	READINGS LITERATURE/CULTURE 2
EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES
Humanities and Fine Arts	
CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

3-6

Area III: Mathematics and Sciences**11-12**

Mathematics

3-4

MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	

SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Atmospheric & Earth Science Majors (ATS)		34
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Chemistry:		4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
Computer Programming: choose one		3
CS 100 or CS 102 or CS 103 or CS 104	INTRO COMPUTERS & PROGRAM INTRO TO C PROGRAMMING INTRO PROGRAMMING USING JAVA INTRO TO CS USING PYTHON	
Mathematics: **		15
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 238	APPL DIFFERENTIAL EQUATIONS	
Applied Statistics: choose one		3
MA 281	ELEMENTS OF STATISTICAL ANALYS	
MA 385	INTRO TO PROBABILITY & STATIST	
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	
PY 300	PSYCHOLOGICAL STATISTICS	
SOC 303	STATISTICS/SOCIAL SCIENCES	
Physics Sequence:		8
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

Major Requirements

Code	Title	Semester Hours
Atmospheric & Earth Science Core:		17
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 209	DATA ANALYSIS TOOLS	
AES 301	INTRO TO EARTH & ATMOSPHERIC PHYS [‡]	
AES 303	CLASSICAL & PHYSICAL CAUSES CLIM [‡]	
AES 498	RESEARCH & PROF DEV CAPSTONE	
Atmospheric Science/Meteorology Concentration Requirements:		16
AES 212 & 212L	SEVERE WEATHER ANALYSIS and LABORATORY	
AES 321 or AES 370	POLLUTION PROBLEMS INTRODUCTION TO REMOTE SENSING	
AES 341	THERMODYNAMIC METEOROLOGY [‡]	

AES 351	DYNAMIC METEOROLOGY ‡	
AES 408	PYTHON FOR GIS	
or AES 409	SCI PROGRMNG FOR EARTH & ATMOS	
Atmospheric Science/Meteorology Concentration Elective Requirements: choose 17 hours, at least 9 must be at the 400-level		17
AES 305	HYDROLOGY ‡	
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	
AES 321	POLLUTION PROBLEMS	
or AES 370	INTRODUCTION TO REMOTE SENSING	
AES 352	SYNOPTIC METEOROLOGY ‡	
AES 402	SCI & SOC ASPTS NATRL DISASTER	
AES 408	PYTHON FOR GIS	
or AES 409	SCI PROGRMNG FOR EARTH & ATMOS	
AES 410	OPERATIONAL WEATHER FORECAST'G ‡	
AES 414	GEOSPATIAL APPLICATIONS	
AES 420	INTRO ATMOSP CHEM & AIR POLLU	
AES 441	ATMOSP THERMODY & CLOUD PHYSIC	
AES 451	ATMOSPHERIC FLUID DYNAMICS I	
AES 454	FORECASTING MESOSCALE PROC ‡	
AES 461	ATMOSPHERIC RADIATION I	
AES 471	RADAR METEOROLOGY	
AES 472	SATELLITE METEOROLOGY ‡	
AES 490	SPEC TOPICS EARTH & ATMOSPH SC	
AES 495	DIRECTED STUDY	
or AES 497	UNDERGRADUATE INTERNSHIP	
or AES 499	UNDERGRADUATE RESEARCH	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.
- ‡ These courses count towards the National Weather Service GS-1340 Federal Civil Service Requirements.
 AES 313, AES 408, & AES 414 - Student may choose 2 of these 3 GIS tools courses to count in the Atmospheric Science/Meteorology Concentration Electives section.
 AES 495, AES 497, & AES 499 - Student may choose only one of these courses to count in the Atmospheric Science/Meteorology Concentration Electives section.
 AES 490 Special Topics course may count in the Atmospheric Science Concentration Electives section with department approval.
 AES 321, AES 370, AES 408, & AES 409 - Each of these courses can be used to satisfy either the Atmospheric Science/Meteorology Concentration Requirements of the Concentration Electives, but not both.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	4
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	4
EH 101	COLLEGE WRITING I	3
MA 171	CALCULUS A	4
Term Semester Hours:		16

Spring

AES 212 & 212L	SEVERE WEATHER ANALYSIS and LABORATORY	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2

Fall		
AES 209	DATA ANALYSIS TOOLS ^{FA}	2
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	3
MA 201	CALCULUS C	4
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Term Semester Hours:		16

Spring

AES 105	WORLD REGIONAL GEOGRAPHY ^{SP}	3
AES 301	INTRO TO EARTH ATMOSPHERIC PHYS	3
MA 238	APPL DIFFERENTIAL EQUATIONS	3
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
Fine Art		3
Term Semester Hours:		16

Year 3

Fall		
AES 321	POLLUTION PROBLEMS ^{FA *}	3
AES 341	THERMODYNAMIC METEOROLOGY ^{FA}	3
AES 351	DYNAMIC METEOROLOGY ^{FA}	3
MA 281 or MA 385 or PSC 300 or PY 300 or SOC 303	ELEMENTS OF STATISTICAL ANALYSIS or INTRO TO PROBABILITY & STATIST or INTRO SOCIAL SCIENCE STATISTIC or PSYCHOLOGICAL STATISTICS or STATISTICS/SOCIAL SCIENCES	3
History		3
Term Semester Hours:		15

Spring

AES 303	CLASSICAL PHYSICAL CAUSES CLIM	3
AES 370	INTRODUCTION TO REMOTE SENSING *	3
AES 498	RESEARCH PROF DEV CAPSTONE	1

Atmospheric/Meteorology		3
Elective 300+ or 400+ course		
History		3
Term Semester Hours:		13
Year 4		
Fall		
AES 409	SCI PROGRMNG FOR EARTH ATMOS	3
Atmospheric/Meteorology		3
Elective 300+ or 400+ course		
Atmospheric/Meteorology		3
Elective 400+ course		
Non-Literature Humanity		3
General Elective		2
Term Semester Hours:		14
Spring		
Atmospheric/Meteorology		3
Elective 400+ course		
Atmospheric/Meteorology		3
Elective 400+ course		
Atmospheric/Meteorology		3
Elective 300+ or 400+ course		
Humanities, 2nd Fine Art or		3
2nd Literature		
Literature		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

* Choose from AES 321/Pollution Problems Fall semester or take AES 370/Remote Sensing Spring semester.

Atmospheric and Earth Science, BS - Earth System Science Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	

EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	

WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Atmospheric & Earth Science Majors (ESS)		25-27
Courses in this area may also be used to fulfill Charger Foundations requirements.		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Biology or Chemistry: choose one		4
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
Computer Programming: choose one		3
CS 100 or CS 102 or CS 103 or CS 104	INTRO COMPUTERS & PROGRAM INTRO TO C PROGRAMMING INTRO PROGRAMMING USING JAVA INTRO TO CS USING PYTHON	
Mathematics: choose two **		6-8
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 281	ELEMENTS OF STATISTICAL ANALYS ¹	
Applied Statistics: choose one		3
MA 281	ELEMENTS OF STATISTICAL ANALYS ¹	
MA 385	INTRO TO PROBABILITY & STATIST	
PSC 300	INTRO SOCIAL SCIENCE STATISTIC	
PY 300	PSYCHOLOGICAL STATISTICS	
SOC 303	STATISTICS/SOCIAL SCIENCES	
Physics Sequence:		8
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	
PH 102 & 102L	GENERAL PHYSICS II and GENERAL PHYSICS LAB II	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112
& PH 115GEN PHYSICS W/CALC II
and GENERAL PHYSICS LAB II ⁵

Major Requirements

Code	Title	Semester Hours
Atmospheric & Earth Science Core:		17
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 209	DATA ANALYSIS TOOLS	
AES 301	INTRO TO EARTH & ATMOSPHERIC PHYS	
AES 303	CLASSICAL & PHYSICAL CAUSES CLIMATE	
AES 498	RESEARCH & PROFESSIONAL DEVELOPMENT CAPSTONE	
Earth System Science Concentration Requirements:		15
AES 305	HYDROLOGY	
AES 312 or AES 321	PRINCIPLES OF ECOLOGY POLLUTION PROBLEMS	
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	
AES 370	INTRODUCTION TO REMOTE SENSING	
AES 408 or AES 409	PYTHON FOR GIS SCIENCE PROGRAMMING FOR EARTH & ATMOSPHERE	
Earth System Science Concentration Elective Requirements: choose 17-18 hours, at least 6 must be at the 400-level		17-18
AES 210	COLLAPSE OF CIVILIZATIONS	
AES 212 & 212L	SEVERE WEATHER ANALYSIS and LABORATORY	
AES 302	PEOPLE, PLANTS, & ENVIRONMENT	
AES 307	ENVIRONMENTAL ARCHEOLOGY	
AES 312 or AES 321	PRINCIPLES OF ECOLOGY POLLUTION PROBLEMS	
AES 402	SCIENCE & SOCIETY ASPECTS OF NATURAL DISASTERS	
AES 407	ENVIRONMENTAL THREATS, PUBLIC POLICY, & DECISION MAKING	
AES 408 or AES 409	PYTHON FOR GIS SCIENCE PROGRAMMING FOR EARTH & ATMOSPHERE	
AES 414	GEOSPATIAL APPLICATIONS	
AES 415	ADVANCED TOPICS IN GIS	
AES 420	INTRODUCTION TO ATMOSPHERIC CHEMISTRY & AIR POLLUTION	
AES 472	SATELLITE METEOROLOGY	
AES 490	SPECIAL TOPICS IN EARTH & ATMOSPHERIC SCIENCE	
AES 495 or AES 497 or AES 499	DIRECTED STUDY UNDERGRADUATE INTERNSHIP UNDERGRADUATE RESEARCH	

General Electives

Code	Title	Semester Hours
Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100-level HPE courses can count toward degree requirements.		
Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.
- ¹ MA 281 can be used to satisfy the Area V Mathematics requirement or the Applied Statistics requirement, but not both.
 AES 312, AES 321, AES 408, & AES 409 - Each of these courses can be used to satisfy either Earth System Science Concentration Requirements or the Concentration Elective courses, but not both
 AES 490 Special Topics course may count in the Earth System Science Concentration Electives section with department approval.
 AES 495, AES 497, & AES 499 - Student may choose one of these courses to count in the Earth System Science Concentration Electives section.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	4
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16

Spring

AES 105	WORLD REGIONAL GEOGRAPHY ^{SP}	3
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
General Elective		1
Term Semester Hours:		15

Year 2

Fall		
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY ^{FA}	3
AES 209	DATA ANALYSIS TOOLS ^{FA}	2
CS 104	INTRO TO CS USING PYTHON	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
History		3
Term Semester Hours:		15

Spring

AES 301	INTRO TO EARTH ATMOSPHERIC PHYS	3
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	3
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
Fine art		3
History		3
Term Semester Hours:		16

Year 3

Fall		
AES 321 or BYS 312	POLLUTION PROBLEMS ^{FA} or PRINCIPLES OF ECOLOGY	3

AES 370	INTRODUCTION TO REMOTE SENSING	3
Earth System Science Concentration Elective		4
MA 281	ELEMENTS OF STATISTICAL ANALYSIS	3
or MA 385	or INTRO TO PROBABILITY & STATISTICS	
or PSC 300	or INTRO SOCIAL SCIENCE STATISTICS	
or PY 300	or PSYCHOLOGICAL STATISTICS	
or SOC 303	or STATISTICS/SOCIAL SCIENCES	
General Elective		1
Term Semester Hours:		14
Spring		
AES 303	CLASSICAL PHYSICAL CAUSES CLIMATE	3
AES 305	HYDROLOGY ^{SP}	3
AES 408	PYTHON FOR GIS ^{SP}	3
AES 498	RESEARCH PROF DEV CAPSTONE	1
Literature		3
General Elective		3
Term Semester Hours:		16
Year 4		
Fall		
Earth System Science Concentration Elective (300+ or 400+ course)		3
Earth System Science Concentration Elective (400+ course)		3
Humanities, 2nd Fine Art or 2nd Literature		3
General Elective		3
General Elective		1
Term Semester Hours:		13
Spring		
Earth System Science Concentration Elective (300+ or 400+ course)		3
Earth System Science Concentration Elective 400+ course)		3
Earth System Science Concentration Elective		3
Non-Literature Humanity		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Atmospheric Science Minor

A minor in Atmospheric Science consists of:

Code	Title	Semester Hours
Required courses:		15
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 212 & 212L	SEVERE WEATHER ANALYSIS and LABORATORY	
AES 301	INTRO TO EARTH & ATMOSPHERIC PHYS	
Elective courses: choose at least 2 courses, minimum of 6 credit hours		6+
AES 303	CLIMATE & PHYSICAL CAUSES CLIMATE	
AES 321	POLLUTION PROBLEMS	
AES 351	DYNAMIC METEOROLOGY	
AES 352	SYNOPTIC METEOROLOGY	
AES 409	SCI PROGRAMMING FOR EARTH & ATMOSPHERE	
AES 410	OPERATIONAL WEATHER FORECASTING	
AES 420	INTRO ATMOSPHERIC CHEM & AIR POLLUTION	
AES 441	ATMOSPHERIC THERMODYNAMICS & CLOUD PHYSICS	
AES 451	ATMOSPHERIC FLUID DYNAMICS I	
AES 454	FORECASTING MESOSCALE PROCESSES	
AES 461	ATMOSPHERIC RADIATION I	
AES 471	RADAR METEOROLOGY	
Total credit hours:		21

Earth Ecosystems Minor

A minor in Earth Ecosystems consists of:

Code	Title	Semester Hours
Required courses:		15
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 302	PEOPLE, PLANTS, & ENVIRONMENT	
AES 312	PRINCIPLES OF ECOLOGY	
Elective courses: choose at least 2 courses, minimum of 6 credit hours		6+
AES 210	COLLAPSE OF CIVILIZATIONS	
AES 303	CLIMATE & PHYSICAL CAUSES CLIMATE	
AES 307	ENVIRONMENTAL ARCHEOLOGY	
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	
AES 321	POLLUTION PROBLEMS	
AES 370	INTRODUCTION TO REMOTE SENSING	
AES 407	ENVIRONMENTAL THREATS, PUBLIC POLICY, & DECISION MAKING	
AES 408	PYTHON FOR GIS	
AES 414	GEOSPATIAL APPLICATIONS	
AES 415	ADVANCED TOPICS IN GIS	
Total credit hours:		21

Geographic Information Systems/Remote Sensing Minor

A minor in Geographic Information Systems/Remote Sensing consists of:

Code	Title	Semester Hours
Required courses:		17
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	
AES 370	INTRODUCTION TO REMOTE SENSING	
AES 414	GEOSPATIAL APPLICATIONS	
Elective courses: choose at least 4 credit hours		4+
AES 212	SEVERE WEATHER ANALYSIS	
AES 301	INTRO TO EARTH & ATMOSPHERIC PHYS	
AES 303	CLASSICAL & PHYSICAL CAUSES CLIMATE	
AES 305	HYDROLOGY	
AES 321	POLLUTION PROBLEMS	
AES 402	SCIENCE & SOCIETY ASPECTS NATURAL DISASTER	
AES 408	PYTHON FOR GIS	
AES 409	SCIENCE PROGRAMMING FOR EARTH & ATMOSPHERE	
AES 415	ADVANCED TOPICS IN GIS	
Total credit hours:		21

Natural Disaster Impacts and Policy Minor

A minor in Natural Disasters Impacts & Policy consists of:

Code	Title	Semester Hours
Required courses:		14
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 402	SCIENCE & SOCIETY ASPECTS NATURAL DISASTER	
AES 407	ENVIRONMENTAL THREATS, PUBLIC POLICY, & DECISION MAKING	
Elective courses: choose at least 7 credit hours		7+
AES 210	COLLAPSE OF CIVILIZATIONS	
AES 212 & 212L	SEVERE WEATHER ANALYSIS and LABORATORY	
AES 305	HYDROLOGY	
AES 307	ENVIRONMENTAL ARCHEOLOGY	
AES 313	GEOGRAPHIC INFORMATION SYSTEMS	
AES 321	POLLUTION PROBLEMS	
AES 370	INTRODUCTION TO REMOTE SENSING	
AES 414	GEOSPATIAL APPLICATIONS	
Total credit hours:		21

Biological Sciences

369A Shelby Center

Telephone: 256.824.6260

Email: biology.admin@uah.edu

Chair: Dr. Paul Wolf (<https://www.uah.edu/science/departments/biology/faculty-staff/paul-wolf/>)

The Department of Biological Sciences offers the following undergraduate degrees:

- Biological Sciences, BS (p. 578)
- Biological Sciences, BS - Biochemistry Concentration (p. 583)
- Biological Sciences, BS - Ecology & Evolution Concentration (p. 589)
- Biological Sciences, BS - Pre-Professional Health Careers Concentration (p. 595)

Program Objectives

The UAH Department of Biological Sciences prepares students for jobs in an evolving marketplace. Our graduates comprise the next generation of highly skilled environmental, clinical, data scientists, and other fields related to biological sciences. Our comprehensive curricula include instruction through lecture, field, and laboratory experience for our undergraduates, and meet the highest national standards.

Learning Outcomes

The UAH Department of Biology program fosters an advanced understanding of biology through phenomenon-based learning and research. Throughout the biology program, students engage in the scientific process, allowing them to understand the applications of biology to real-life scenarios.

- Biological Sciences, BS (p. 578)
- Biological Sciences, BS - Biochemistry Concentration (p. 583)
- Biological Sciences, BS - Ecology and Evolution Concentration (p. 589)
- Biological Sciences, BS - Pre-Professional Health Careers Concentration (p. 595)
- Biological Sciences (p. 601)

BYS 100 - INTRO HEALTH PROFESSIONS

Semester Hour: 1

Career options for undergraduate students interested in health professions. Basics of health-care delivery systems and terminology of health care. No BYS major or minor credit. Primarily for freshman and sophomores.

BYS 109 - FUNDAMENTALS OF BIOLOGY

Semester Hours: 4

This course emphasizes an understanding of the living world through discussion of biological concepts and how they relate to social sciences and humanities. Biological concepts covered include the nature of science, cellular biology, biochemistry, heredity, evolution, biological diversity, ecology, anatomy, and physiology. Not intended for biology majors. Lab included in the lecture.

BYS 119 - PRINCIPLES OF BIOLOGY

Semester Hours: 3

Introduction to biological principles of cell structure, function, metabolism, and reproduction. Prerequisite w/ Concurrency: BYS 121.

BYS 120 - ORGANISMAL BIOLOGY

Semester Hours: 3

Discussion of biological function with special emphasis on contrasting strategies employed by organisms in meeting similar biology needs. Prerequisite w/ concurrency: BYS 122.

BYS 121 - LABORATORY

Semester Hour: 1

Laboratory exercised to introduce students to accurate measurement techniques, observation, and the development of relevant hypotheses. Several formal lab reports are required as an introduction to scientific writing. Prerequisite w/ concurrency: BYS 119.

BYS 122 - ORGANISMAL BIOLOGY LAB

Semester Hour: 1

Introduction to the basic concepts of natural selection, population biology, and the biodiversity of animals and plants. Several formal lab reports are required as further introduction to scientific writing, along with a lab practical on the biodiversity of animals and plants. Prerequisite w/ concurrency: BYS 120.

BYS 202 - HUMAN ANAT & PHYS II/CALHOUN

Semester Hours: 4

BYS 205 - CODING ALGORITHMS FOR BIOLOGY

Semester Hours: 3

Prerequisites: BYS 119, BYS 120, MA 112.

BYS 214 - INFECTION & IMMUNITY

Semester Hours: 4

Lecture/Lab. Two 2-hour labs a week. Principles of microbiology with emphasis on infectious disease of humans; epidemiological and immunological aspects. No credit for students who have credit for BYS 321 or advanced microbiology courses. Recommended for students in the College of Nursing.

Prerequisites: BYS 119 and either CH 101 or CH 121 or CH 151.

BYS 214L - LABORATORY

Semester Hours: 0

BYS 215 - HUMAN ANATOMY & PHYSIOLOGY I

Semester Hours: 4

BYS 215 (I) and laboratory (one 3-hour lab per week), is designed primarily for the Nursing and Kinesiology majors. Course and laboratory material focus on the use of anatomical terminology, major tissues of the body and in-depth study of skeletal, muscular and nervous system physiology. Basic pathology is also presented to prepare students for clinicals. Laboratory material reinforces the lecture content with detailed identification of bones, joints, surface markings, and human musculature. Prerequisites: BYS 119, CH 101 and CH 105.

BYS 215L - HUMAN ANAT & PHYS I LAB

Semester Hours: 0

An introduction to anatomical terminology; basic histology of normal tissues versus common pathologies. Focus on the human skeletal and muscular systems. Students are engaged in recognition of individual bones, surface markings, and major muscles through dissection and use of muscular models.

BYS 216 - HUMAN ANATOMY & PHYSIOLOGY II

Semester Hours: 4

BYS 216 (II) and laboratory (one 3-hour lab per week) is designed as a continuum for the Nursing and Kinesiology majors. Course and laboratory material focus on the structures and organization of the central and peripheral nervous system, neurotransmitters, cardiovascular, renal, respiratory, digestive, and detailed study of the endocrine systems. Basic pathology is also presented to prepare students for clinicals. Laboratory material reinforces the lecture content with dissections of key organs, study of blood flow, identification of major blood vessels and nerves, and explanations of various diagnostic tests (EKG/ECG). Prerequisite: BYS 215.

BYS 216L - HUMAN ANAT & PHYS II LAB

Semester Hours: 0

Study of the anatomy of the nervous, cardiovascular, respiratory, renal, and digestive systems. Dissections of eye, brain, heart, lung, and kidney. Basic EKG/ECG reading and a study of factors affecting blood pressure. Enzymatic action of the digestive system; basic urinalysis determinations.

BYS 219 - GENETICS AND EVOLUTION

Semester Hours: 3

Hereditary basis of organisms; genes as the discrete units of inheritance, and genes in organisms and populations. Mendelian principles and evolutionary processes. Replication, transcription, and translation of DNA, RNA, and proteins. Prerequisite w/concurrency: BYS 221. Prerequisites: BYS 119, BYS 120 and (CH 101 or CH 121) and (MA 107 or MA 112).

BYS 221 - LABORATORY

Semester Hour: 1

Laboratory activities include experiments to further students understanding in Medelian genetics, molecular biology, and human genetic diseases. Prerequisite w/concurrency: BYS 219.

BYS 292 - INTRO TO BIOLOGICAL RESEARCH

Semester Hours: 3

Introduction to the principles and practices of biological research. Covers experimental design, statistical analysis, critical review of journal articles, responsible conduct of research, and writing for the biological sciences. Recommended for students planning to do undergraduate research.

Prerequisites: BYS 119, MA 112, EH 101.

BYS 300 - CELL & DEVELOPMENTAL BIOLOGY

Semester Hours: 4

Lecture/Lab. One lab per week. Introduces the student to topics in cell and developmental biology. Subjects include cell structure, organelles, cytoskeleton, secretory pathway, cell division, cell cycle, cell interaction and control of differentiation. Prerequisites: BYS 219 (C- or better) and either CH 123 or 201.

BYS 300L - CELL & DEVELOPMENT BIO LAB

Semester Hours: 0

BYS 301 - ELEMENTARY BIOCHEMISTRY

Semester Hours: 3

Biochemistry and energetics of living cells, metabolism, structure and function of carbohydrates, lipids, proteins, and nucleic acid. Enzymes, coenzymes, vitamins, blood, endocrine glands, DNA synthesis, and gene expression. Same as CH 301. Prerequisites: BYS 119, BYS 120 and CH 201 or CH 331.

BYS 302 - PEOPLE, PLANTS & ENVIRONMENT

Semester Hours: 3

This course is designed to introduce students from multiple departments to the vital roles that plants have in our ecosystems through the study of basic plant and soil science. Special attention is placed on the impact that plants have on our technology-based society.

BYS 311 - INTRO MOLECULAR UNDST BIO SYST

Semester Hours: 3

Introduction to a molecular understanding of genes, gene expression, and genetic engineering in selected prokaryotic and eukaryotic systems. Includes examples of biotechnology applications. Prerequisite: CH 331.

BYS 312 - PRINCIPLES OF ECOLOGY

Semester Hours: 4

Lecture/Lab. One lab a week. Population structure and growth, competition, predation, symbiosis, biogeochemical cycling and energy flow, disturbance and community dynamics, biodiversity and conservation. Field trips required. Prerequisite: BYS 120.

BYS 313 - ANATOMY & PHYSIOLOGY I

Semester Hours: 4

Lecture/Lab. One lab a week. Structure and function of the human body. Anatomy of the skeletal and muscular systems, physiology of membranes, cellular and epithelial transport and nervous system function. Appropriate preparation for professional schools/graduate study in biological sciences. Prerequisite: BYS 119. Prerequisites with concurrency: BYS 300, and either CH 201 or CH 331.

BYS 313L - LABORATORY

Semester Hours: 0

Laboratory activities on the basic concept of system physiology including a rat dissection. Focuses on membrane transport and histology, and include gross anatomy and a study of the muscles and bones of the human body. Capstone student research project on electromyography of muscles.

BYS 314 - ANATOMY & PHYSIOLOGY II

Semester Hours: 4

Lecture and one lab a week. Continuation of BYS 313 stressing structural and functional relationships of major organ systems, focusing on heart, brain, lungs, kidney, and the gastrointestinal tract. Appropriate for students preparing for professional schools or graduate study in biological sciences. Prerequisite: BYS 313 (C- or better).

BYS 314L - ANATOMY & PHYSIOLOGY II LAB

Semester Hours: 0

Research-intensive system-based laboratory course. Includes brain dissection, a student EEG project, heart dissection, and a cardiovascular physiology project. This is followed by a pulmonary function lab and a renal function lab where students calculate their own glomerular filtration rate.

BYS 315 - ICHTHYOLOGY

Semester Hours: 4

Classification, anatomy, physiology, and ecology of freshwater and marine fishes. Emphasizes fishes of north Alabama. Laboratory and field trips required. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 317 - VERTEBRATE ZOOLOGY

Semester Hours: 5

Lecture/Lab. Two three-hour labs a week. Morphology of vertebrate animals. Relationship of organs and systems and their phylogenetic significance. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 318 - VERTEBRATE REPRODUCTION

Semester Hours: 3

General treatment of the major concepts and controversial areas of comparative vertebrate reproduction: ecological and evolutionary aspects, development of reproductive functions and sexual behavior, seasonal breeding and other topics of current interest. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 320 - MEDICAL TERMINOLOGY

Semester Hours: 3

The meaning, spelling, etymology and pronunciation of major medical terms related to anatomy, pathology, medical professions, procedures and pharmaceuticals; body systems, their associated diseases and disorders. Correct usage of terms and interpretation of documents containing these terms. Hybrid course with online and in-class portions. Prerequisites: BYS 300 or BYS 215 and BYS 216.

BYS 321 - GENERAL MICROBIOLOGY I

Semester Hours: 4

Structure, biochemistry, and genetics of microorganisms, control of microbial growth, and microorganisms as pathogens. Lab covers basic and diagnostic methods in microbiology, environmental factors controlling microbial growth and survival, and characteristics of medically important microorganisms. Prerequisites: BYS 120, BYS 219. Prerequisite with concurrency: BYS 300.

BYS 321L - LABORATORY

Semester Hours: 0

BYS 347 - BIOPHYSICAL CHEMISTRY I

Semester Hours: 3

First and second laws of thermodynamics. Free energy and equilibrium. Colligative properties of solutions. Ionic equilibria. Electrochemistry. Reaction kinetics. Enzyme catalysis. Adsorption and surface tension. Same as CH 347. Prerequisites: CH 332, PH 112, PH 115 and MA 172.

BYS 348 - BIOPHYSICAL CHEMISTRY II

Semester Hours: 3

Viscosity, diffusion, sedimentation, electrophoresis, determination of molecular weight by osmotic pressure. Light scattering and photochemistry. Elementary IR, UV-VIS, ESR, NMR spectroscopy. Fluorescence. Optical rotation. Same as CH 348. Prerequisites: BYS 347 or CH 347.

BYS 361 - GENERAL BIOCHEMISTRY

Semester Hours: 3

Biochemical structure and function of amino acids, proteins, carbohydrates, lipids, and nucleic acids; Enzyme catalysis and kinetics; major catabolic pathways, their integration and control mechanisms: Glycolysis, Citric Acid Cycle, Fatty Acid Oxidation and Oxidative Phosphorylation. Same as CH 361. Prerequisites: (BYS 119, BYS 120, CH 332 and CH 335) or (BYS 311, CH 332 and CH 335).

BYS 362 - GENERAL BIOCHEMISTRY LAB

Semester Hour: 1

One 3-hour lab a week. Practical experience in isolation, qualitative identification, and quantitative estimation of biomolecules. Same as CH 362. Prerequisites: CH 335 and CH 336. Prerequisite with concurrency: CH 361.

BYS 363 - GENERAL BIOCHEMISTRY II

Semester Hours: 3

A continuation of BYS 361 to include amino acid oxidation, biosynthesis of biomolecules, integration of metabolism, DNA and RNA metabolism, protein biosynthesis, and gene structure. Same as CH 363. Prerequisites: BYS 361 (C- or better).

BYS 364 - BIOGEOGRAPHY

Semester Hours: 3

Why plants and animals live where they do. Principles governing plant and animal distribution and dispersal, using the communities of North America as prime examples. Strongly recommended: BYS 312. Prerequisites: BYS 120, BYS 219. Prerequisite with concurrency: BYS 300.

BYS 365 - GENERAL BIOCHEMISTRY LAB II

Semester Hour: 1

Experimental course illustrating the topics in BYS 363. Prerequisites: BYS 361 and BYS 362. Prerequisite with concurrency: BYS 363.

BYS 403 - ADV EXERCISE PHYSIOLOGY

Semester Hours: 4

Lecture/Lab. One lab per week. Human physiology, addressing the effects of environmental variables such as altitude, thermal stress, and terrain on the major physiological systems of the body; in-depth analysis of resistance training, aerobic and anaerobic training; integration of multiple systems. Prerequisites: BYS 401, and (BYS 301 or CH 301) or (BYS 361 or CH 361).

BYS 405 - PSYCHOPHARMACOLOGY

Semester Hours: 3

Introduction to drug classification and action with emphasis on physiological and psychological interactions.

BYS 417 - PRINCIPLES OF PLANT PHYSIOLOGY

Semester Hours: 4

The objectives in the development of this course is to provide students with an opportunity to: (1) study the principles of plant physiology (2) to gain an understanding of the complexity of plant genetics and stress response pathways (hormones) as well as (3) to appreciate how dependent we are on plants from those in our forests and environment to those in agricultural production and beyond. Laboratory experiments will provide an additional opportunity for students to take the lecture material and gain actual experience in the growth, nutritional requirements, and maintenance of a wide variety of plants through the semester via work on campus as well as in the UAH Greenhouse. Prerequisites: BYS 120 and BYS 219.

BYS 419 - MICROBIAL GENETICS

Semester Hours: 3

Transmission, expression, and evolution of genes in microorganisms. Studies of chromosomes, plasmids, transposons, bacteriophages, and other genetic elements. Prerequisites: BYS 219, BYS 300 and BYS 321.

BYS 420 - MICROBIAL BIOTECHNOLOGY

Semester Hours: 4

Microbial Biotechnology is an advanced Graduate/Undergraduate course that provides insight of how bacteria, viruses, and fungi are manipulated and used to solve human problems. This course is designed based on topics recommended by American Society of Microbiology. Prerequisites: BYS 419.

BYS 430 - IMMUNOLOGY

Semester Hours: 4

Lecture/Lab. One 3-hour lab per week. Innate, humoral, and cell-mediated immunity. Immune deficiencies and hypersensitivities. Autoimmunity, transplantation, and tumor immunology. Prerequisites: BYS 219, BYS 300 and BYS 321. Prerequisite with concurrency: CH 361.

BYS 431 - BIOLOGICAL DATA SKILLS

Semester Hours: 3

This course covers a range of computational skills needed specifically for biologists who do not have any training in computer science. The course focuses on command line tools, basic programming in Python, and various aspects of data handling including, data curation, organization, storage, querying, and archiving. The course will include a project that ties together skills that are useful for individual students.

BYS 432 - PRINC OF SIGNAL TRANSDUCTION

Semester Hours: 2

This course will introduce the broad principles of intracellular signal transduction. More detail lectures on specific intracellular signaling pathways will be given where students will learn both the basic and the most recent and cutting edge concepts of intracellular signaling. Appropriate for undergraduate and graduate studies in biological sciences, researchers new to the field and those actively working in the general area.

BYS 433 - RESEARCH SEMINAR ATTENDANCE

Semester Hour: 1

This course gives upper level biology majors a chance to gain exposure to research in biology. Students will attend seminars and learn about how research projects are planned and interpreted. Additionally they will learn how scientists present their research. Prerequisite: BYS 300.

BYS 436 - BIOLOGICAL PSYCHOLOGY

Semester Hours: 3

Functional analysis of neural and endocrine systems underlying behavior. Same as PY 436. Prerequisites: 15 hours of PY or approval of instructor, and BYS 120 or BYS 313, and 6 hours of PY.

BYS 437 - PSYCHOBIOLOGY STRESS & ILLNESS

Semester Hours: 3

Overview of psychological stress responses and their influence on health, behavior, and illness. Same as PY 437. Prerequisites: approval of instructor.

BYS 461 - HERPETOLOGY

Semester Hours: 4

Classification, diversity, anatomy function, ecology, behavior, and evolution of amphibians and reptiles. Laboratory and field trips devoted to anatomy and identification, with an emphasis on Alabama and southeastern U.S. species. Prerequisites: BYS 120 and BYS 219.

BYS 464 - EVOLUTION

Semester Hours: 3

Principles of evolution and speciation. Nature of species, selection and adaptation, divergence and cladogenesis, isolation, hybridization, and phylogeny. Prerequisites: BYS 120, 219. Prerequisites with concurrency: BYS 300.

BYS 466 - ORNITHOLOGY

Semester Hours: 4

An examination of birds, including classification, diversity, anatomy, function, ecology, behavior, and evolution. Laboratory and field trips devoted to anatomy and identification, with an emphasis on Alabama and southeastern U. S. species. Prerequisites: BYS 120, BYS 219 and BYS 312 w/ concurrency.

BYS 467 - ANIMAL BEHAVIOR

Semester Hours: 3

This course examines the role of animal behavior in survival and reproduction. It emphasizes the genetic, morphological, and physiological basis of behavior. Particular emphasis is placed on the mechanisms underlying behavior and their evolutionary significance.

BYS 490 - SENIOR CAPSTONE

Semester Hours: 2

Discussions, readings, and presentations of topical biological subjects using scientific literature. Capstone course emphasizing refinement of oral and written communication skills and critical thinking. All students will take ETS Major Field Test in Biology as part of the course grade. Prerequisites: BYS 119, 120, 219, and 300. Senior standing.

BYS 491 - SPECIAL TOPICS BIOLOGICAL SCI

Semester Hours: 1-4

Directed readings and/or written reports on topics of interest to individual students carried out under supervision of an instructor. Prerequisites: Permission of instructor required before registration.

BYS 492 - UNDERGRADUATE RESEARCH

Semester Hours: 2-4

For advanced-level biological sciences students with biological sciences GPA of 3.5 or above. Individual investigations into biological problems under direct supervision of instructor. May also be taken at the Marine Environmental Sciences Consortium, Dauphin Island, Alabama. Prerequisites: Permission of instructor required before registration.

BYS 499 - UNGRAD HONORS RES & THESIS

Semester Hours: 2-4

Individual investigations into biological problems under direct supervision of instructor. For honors students majoring in the biological sciences. Prerequisites: Approval of instructor, chair, and director of honors program; senior standing.

Marine Sciences

Select courses in marine sciences, available through the Marine Sciences Consortium at The Dauphin Island Sea Lab (<http://www.disl.org/>), may be taken for credit at UAH toward a biological sciences major or minor, a minor in marine sciences, or a Master of Science degree in biological sciences. Marine sciences coursework must be approved by the Marine Sciences Consortium UAH liaison officer in the Biological Sciences Department prior to enrollment in the courses.

MS 202 - MARINE BIOLOGY

Semester Hours: 4

Survey of invertebrates, vertebrates, and marine plants as communities with local examples. Examination of marshland, estuarine, beach, dune, inlet and neritic habitats, and niches. Lecture/Lab/field work. Offered only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, AL. Prerequisites: BYS 119 and BYS 120.

MS 204 - COM MARINE FISHERIES/ALA

Semester Hours: 2

Biology, harvesting technology, and processing of commercially valuable fish and shellfish species of Alabama. Offered only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama. No credit for biological sciences major or minor; can be used for marine science minor.

MS 301 - MARINE TECH METHODS I

Semester Hours: 2

Marine science research equipment, methods, and techniques. Operation and field maintenance of major sampling gear. Only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama. No credit for biological sciences major or minor; can be used for a marine science minor. Prerequisites: BYS 119 and BYS 120.

MS 303 - COASTAL CLIMATOLOGY

Semester Hours: 2

Physical factors resulting in climatic conditions in and near coastal region. Emphasis on northern Gulf of Mexico. Only at the Marine Environmental Sciences Consortium Sea Labat Dauphin Island, Alabama. No credit toward a biological sciences major or minor; can be used for a marine science minor.

MS 304 - COASTAL ZONE MANAGEMENT

Semester Hours: 2

Examination of ecological features and physical management policies design for coastal communities and a review of the federal and state programs that impinge upon coastal ecological communities. Only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama.

MS 491 - SPECIAL TOPICS IN MARINE SCIEN

Semester Hours: 1-4

Biological Sciences, BS

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	

EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FOREIGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	

MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Biological Sciences Majors		25
Courses in this area may also fulfill Charger Foundations requirements		

First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
General Chemistry and lab:		4
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
or		
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
Organic Chemistry and lab:		4
CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB	
or		
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
Computer Programming: choose one		3
CS 100	INTRO COMPUTERS & PROGRAM	
or CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
or BYS 205	CODING ALGORITHMS FOR BIOLOGY	
or BYS 431	BIOLOGICAL DATA SKILLS	
Mathematics: **		3
MA 112	PRECALCULUS ALGEBRA	
Applied Statistics: choose one		3
MA 281	ELEMENTS OF STATISTICAL ANALYS	
or MA 385	INTRO TO PROBABILITY & STATIST	
or PY 300	PSYCHOLOGICAL STATISTICS	
or SOC 303	STATISTICS/SOCIAL SCIENCES	
Physics: choose one		4
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
Technical Writing:		3
EH 301	TECHNICAL WRITING	

Major Requirements

Code	Title	Semester Hours
Biological Sciences Core:		18
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
BYS 490	SENIOR CAPSTONE	
Biological Sciences Electives:		18
Choose enough BYS classes to reach 18 credit hours.		

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104) or (HY 221 + HY 222)

** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>). Higher math courses may be needed. Speak with your Academic Advisor.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1		
Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
MA 112	PRECALCULUS ALGEBRA	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB	4
EH 102	COLLEGE WRITING II	3
Social and Behavioral Science		3
Term Semester Hours:		14
Year 2		
Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	4
History		3
Fine Art		3
Term Semester Hours:		14
Spring		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
Social and Behavioral Science		3
History		3
Literature		3
Term Semester Hours:		13

Year 3**Fall**

Biological Sciences Elective (300+ or 400+ course)		4
PY 300	PSYCHOLOGICAL STATISTICS	3
or SOC 303	or STATISTICS/SOCIAL SCIENCES	
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
or BYS 205	or CODING ALGORITHMS FOR BIOLOGY	
or BYS 431	or BIOLOGICAL DATA SKILLS	
Non-Literature Humanity		3
General Elective		3
Term Semester Hours:		16

Spring

Biological Sciences Elective (300+ or 400+ course)		4
Humanities, 2nd Fine art or 2nd Literature		3
General Elective (300+ or 400+ course)		3
General Elective		3
General Elective		3
Term Semester Hours:		16

Year 4**Fall**

Biological Sciences Elective (300+ or 400+ course)		4
Biological Sciences Elective (300+ or 400+ course)		3
EH 301	TECHNICAL WRITING	3
General Elective (300+ or 400+ course)		3
General Elective		3
Term Semester Hours:		16

Spring

BYS 490	SENIOR CAPSTONE	2
Biological Sciences Elective (300+ or 400+ course)		3
General Elective		3
General Elective		3
General Elective		3
General Elective		2
Term Semester Hours:		16
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Biological Sciences, BS - Biochemistry Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher

- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	

or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II

CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* 12

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
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For Biological Sciences Majors (BIOB) 17

Courses in this area may also be used to fulfill Charger Foundation requirements.

First Year Experience: 1

FYE 101S	CHARGER SUCCESS - SCIENCE
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Computer Programming: choose one 3

CS 100	INTRO COMPUTERS & PROGRAM
or CS 102	INTRO TO C PROGRAMMING
or CS 103	INTRO PROGRAMMING USING JAVA
or CS 104	INTRO TO CS USING PYTHON
or BYS 205	CODING ALGORITHMS FOR BIOLOGY
or BYS 431	BIOLOGICAL DATA SKILLS

Mathematics: ** 3

MA 112	PRECALCULUS ALGEBRA
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Applied Statistics: choose one 3

MA 281	ELEMENTS OF STATISTICAL ANALYSIS
or MA 385	INTRO TO PROBABILITY & STATIST
or PY 300	PSYCHOLOGICAL STATISTICS
or SOC 303	STATISTICS/SOCIAL SCIENCES

Physics: choose one

4

PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB
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or

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
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Technical Writing:

3

EH 301	TECHNICAL WRITING
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Major Requirements

Code	Title	Semester Hours
Biological Sciences Core:		18
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
BYS 490	SENIOR CAPSTONE	
Biochemistry Concentration Requirements:		12
BYS 321 & 321L	GENERAL MICROBIOLOGY I and LABORATORY	
BYS 361 & BYS 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	
BYS 363 & BYS 365	GENERAL BIOCHEMISTRY II and GENERAL BIOCHEMISTRY LAB II	
Biochemistry Concentration Elective Requirements:		6
300-level or higher BYS course		
300-level or higher BYS course		

Required Chemistry Minor

Code	Title	Semester Hours
Chemistry Minor Requirements:		20
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120
<p>* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)</p> <p>** Based on Math placement (http://www.uah.edu/science/departments/math/undergraduate-students/placement/). Higher math courses may be required. Speak with your Academic Advisor.</p> <p>Note: This is only an example and variations are possible. Please work with your advisor (https://www.uah.edu/science/academic-advising/) as some courses are only offered one semester out of the academic year.</p>		
Year 1		
Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
MA 112	PRECALCULUS ALGEBRA	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 113	PRECALCULUS TRIGONOMETRY	3
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		14
Year 2		
Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 120	MATH PROFESSIONAL APPLICATIONS	3
Fine Art		3
History		3
Term Semester Hours:		17
Spring		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
History		3
Literature		3
Term Semester Hours:		14
Year 3		
Fall		
Biological Sciences Elective (300+ or 400+ course)		3
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4

PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	4
MA 281 or PY 300 or SOC 303	ELEMENTS OF STATISTICAL ANALYSIS or PSYCHOLOGICAL STATISTICS or STATISTICS/SOCIAL SCIENCES	3
Term Semester Hours:		14
Spring		
BYS 321 & 321L	GENERAL MICROBIOLOGY I and LABORATORY	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
CS 104 or CS 102 or BYS 205 or BYS 431	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING or CODING ALGORITHMS FOR BIOLOGY or BIOLOGICAL DATA SKILLS	3
Humanities/2nd Fine Art/2nd Literature		3
Term Semester Hours:		14
Year 4		
Fall		
BYS 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
EH 301	TECHNICAL WRITING	3
Social and Behavioral Science		3
Non-Literature Humanity		3
General Elective (300+ or 400+ course)		3
Term Semester Hours:		16
Spring		
BYS 363 & BYS 365	GENERAL BIOCHEMISTRY II and GENERAL BIOCHEMISTRY LAB II	4
BYS 490	SENIOR CAPSTONE	2
Biological Sciences Elective (300+ or 400+ course)		3
Social and Behavioral Science		3
General Elective		3
General Elective		1
Term Semester Hours:		16
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Biological Sciences, BS - Ecology & Evolution Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.

- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	

or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12**

Mathematics

3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)

8

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I

PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
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For Biological Sciences Majors (ECEV) **25**

Courses in this area may also fulfill Charger Foundations requirements

First Year Experience: **1**

FYE 101S	CHARGER SUCCESS - SCIENCE
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General Chemistry and lab: **4**

CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
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or

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
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Organic Chemistry and lab: **4**

CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB
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or

CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I
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Computer Programming: choose one **3**

CS 100	INTRO COMPUTERS & PROGRAM
or CS 102	INTRO TO C PROGRAMMING
or CS 103	INTRO PROGRAMMING USING JAVA
or CS 104	INTRO TO CS USING PYTHON
or BYS 205	CODING ALGORITHMS FOR BIOLOGY

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
MA 112	PRECALCULUS ALGEBRA	3
Fine art		3
EH 101	COLLEGE WRITING I	3

Term Semester Hours: 14

Spring

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	4
Social and Behavioral Science		3
EH 102	COLLEGE WRITING II	3

Term Semester Hours: 14

Year 2

Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB	4
Literature		3
Social and Behavioral Science		3

Term Semester Hours: 14

Spring

BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
PY 300 or SOC 303	PSYCHOLOGICAL STATISTICS or STATISTICS/SOCIAL SCIENCES	3
History		3
Non-Literature Humanity		3
Humanities, 2nd Fine art or 2nd Literature		3

Term Semester Hours: 16

Year 3

Fall		
BYS 312	PRINCIPLES OF ECOLOGY ^{fa}	4
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	4
History		3
General Elective		3
General Elective		1

Term Semester Hours: 15

Spring

BYS 364	BIOGEOGRAPHY ^{SP}	3
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3

or BYS 205	or CODING ALGORITHMS FOR BIOLOGY	
or BYS 431	or BIOLOGICAL DATA SKILLS	
General Elective		3
General Elective		3
General Elective		3
Term Semester Hours:		15
Year 4		
Fall		
BYS 321	GENERAL MICROBIOLOGY I	4
& 321L	and LABORATORY	
BYS 464	EVOLUTION ^{FA}	3
EH 301	TECHNICAL WRITING	3
General Elective (300+ or 400+ course)		3
General Elective		3
Term Semester Hours:		16
Spring		
BYS 490	SENIOR CAPSTONE	2
Biological Sciences Elective (300+ or 400+ course)		4
General Elective (300+ or 400+ course)		3
General Elective		4
General Elective		3
Term Semester Hours:		16
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Biological Sciences, BS - Pre-Professional Health Careers Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	

AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	

AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Biological Sciences Majors (PPRF)		16
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Mathematics: **		4
MA 171	CALCULUS A	
Applied Statistics: choose one		3
MA 281	ELEMENTS OF STATISTICAL ANALYSIS	
or MA 385	INTRO TO PROBABILITY & STATISTICS	
or PY 300	PSYCHOLOGICAL STATISTICS	
or SOC 303	STATISTICS/SOCIAL SCIENCES	
Physics: choose one sequence		8
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	
and		
PH 102 & 102L	GENERAL PHYSICS II and GENERAL PHYSICS LAB II	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
and		
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

Major Requirements

Code	Title	Semester Hours
Biological Sciences Core:		18
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
BYS 490	SENIOR CAPSTONE	
Pre-Professional Health Concentration Requirements:		16

BYS 321 & 321L	GENERAL MICROBIOLOGY I and LABORATORY
BYS 361 & BYS 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB
Choose one A&P sequence:	
BYS 215 & 215L	HUMAN ANATOMY & PHYSIOLOGY I and HUMAN ANAT & PHYS I LAB
BYS 216 & 216L	HUMAN ANATOMY & PHYSIOLOGY II and HUMAN ANAT & PHYS II LAB
or	
BYS 313 & 313L	ANATOMY & PHYSIOLOGY I and LABORATORY
BYS 314 & 314L	ANATOMY & PHYSIOLOGY II and ANATOMY & PHYSIOLOGY II LAB
Pre-Professional Health Concentration Electives:	
300-level or higher BYS course	
300-level or higher BYS course	

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Required Chemistry Minor

Code	Title	Semester Hours
Chemistry Minor Requirements:		20
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	

General Electives

Code	Title	Semester Hours
Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100-level HPE courses can count toward degree requirements.		
Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable History sequences are (HY 103 + HY 104) or (HY 221 + HY 222)
- ** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 100	INTRO HEALTH PROFESSIONS ^{FA}	1

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		17
Spring		
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
EH 102	COLLEGE WRITING II	3
Fine art		3
Term Semester Hours:		14
Year 2		
Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
PH 101 & 101L	GENERAL PHYSICS I and GENERAL PHYSICS I LAB	4
History		3
Term Semester Hours:		15
Spring		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
PH 102 & 102L	GENERAL PHYSICS II and GENERAL PHYSICS LAB II	4
PY 101	GENERAL PSYCHOLOGY I	3
Term Semester Hours:		15
Year 3		
Fall		
BYS 313 & 313L	ANATOMY & PHYSIOLOGY I and LABORATORY	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
PY 201	LIFE-SPAN DEVELOPMENT	3
Literature		3
Term Semester Hours:		14
Spring		
BYS 314 & 314L	ANATOMY & PHYSIOLOGY II and ANATOMY & PHYSIOLOGY II LAB	4
BYS 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
SOC 100	INTRO TO SOCIOLOGY	3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		14
Year 4		
Fall		

BYS 321 & 321L	GENERAL MICROBIOLOGY I and LABORATORY	4
Biological Sciences Elective (300+ or 400+ course)		3
Non-Literature Humanity		3
General Elective		3
General Elective		3
Term Semester Hours:		16
Spring		
BYS 363 & BYS 365	GENERAL BIOCHEMISTRY II and GENERAL BIOCHEMISTRY LAB II	4
BYS 490	SENIOR CAPSTONE	2
General Elective		3
General Elective		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Biological Sciences Minor

A minor in Biological Sciences consists of:

Code	Title	Semester Hours
Chemistry Requirement:		4
CH 201 & CH 205	ELEM ORGANIC CHEMISTRY and ELEM ORGANIC CHEMISTRY LAB	
or		
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
Biology Requirement:		21
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300	CELL & DEVELOPMENTAL BIOLOGY	
BYS elective courses, 300+ level, 5 credits		
Total Semester Hours		25

Chemistry

215 Materials Science Building

Telephone: 256.824.6153

Email: chem.admin (chem.admin@uah.edu)@uah.edu (jeffrey.champoux@uah.edu)

Interim Chair: Dr. Bernhard Vogler (<https://www.uah.edu/science/departments/chemistry/chemistry-faculty-staff/bernhard-vogler/>)

The Chemistry department offers the following undergraduate degrees:

- Chemistry, BS (p. 606)
- Chemistry, BS - Chemical Business Concentration (p. 612)

The Chemistry department also offer the following undergraduate degrees, certified by the American Chemical Society:

- Chemistry, BS - Biochemistry Concentration (p. 618)
- Chemistry, BS - Pure Chemistry Concentration (p. 624)
- Chemistry, BS - Chemical Physics Concentration (p. 630)
- Chemistry, BS - Environmental Chemistry Concentration (p. 635)

Program Objectives

The mission of the Department of Chemistry is to provide high quality undergraduate and graduate education in all aspects of chemistry, with a special emphasis in materials science and biotechnology. Our goal is to educate our students in chemistry, and to provide them with life-long learning skills allowing them to adapt to an ever-changing environment. Our faculty and students strive to generate new knowledge through research and other creative activities that will benefit the residents of Huntsville, the state of Alabama, the nation, and the world.

Learning Outcomes

Graduates in Chemistry will demonstrate:

- Sound conceptual understanding of basic concepts, methods, terminology, and theories of modern chemistry
- Ability to operate a suite of modern chemical instrumentation
- Ability to effectively present chemical knowledge
- Chemistry, BS (p. 606)
- Chemistry, BS - Chemical Business Concentration (p. 612)
- Chemistry, BS - Biochemistry Concentration (p. 618)
- Chemistry, BS - Pure Chemistry Concentration (p. 624)
- Chemistry, BS - Chemical Physics Concentration (p. 630)
- Chemistry, BS - Environmental Chemistry Concentration (p. 635)

Minors in Chemistry

- Chemistry Minor (p. 641)
- Chemistry Minor for Chemical Engineering Majors (p. 642)

CH 101 - INTRO TO CHEMISTRY

Semester Hours: 3

Properties of solids, liquids, gases, and solutions, atomic theory and bonding, concentration concepts, and physical and chemical properties of the more common elements and their compounds. No placement examination is required. Prerequisite: MA 110 or prerequisites with concurrency MA 112 or higher and CH 105.

CH 101R - RECITATION

Semester Hours: 0

CH 105 - INTRO CHEMISTRY LAB

Semester Hour: 1

Complements the lecture material for CH 101. Laboratory fundamentals and basic chemical principles. Prerequisite with concurrency: CH 101.

CH 121 - GENERAL CHEMISTRY I

Semester Hours: 3

For science and engineering majors. Chemical properties of elements, their periodic groups, and their compounds. Reactions and stoichiometry. Nature of the chemical bond, molecular structure, thermochemistry. Properties of gases, liquids, and solids. Prerequisite: CH 101 or placement test. Prerequisites with concurrency: MA 113 or higher, and CH 125.

CH 121M - GENERAL CHEMISTRY FOR CHEMISTS

Semester Hours: 3

For Chemistry Majors and Minors. Chemical properties of elements and the Periodic Table. Reactions and stoichiometry. Nature of chemical bonds, molecular structure, thermochemistry. Properties of gases, liquids, and solids. Intro to your exciting Department and its programs. Engagement activities. Prerequisites: CH 101 or Placement. Prerequisites with concurrency: MA 113 or higher, CH 125.

CH 121R - RECITATION

Semester Hours: 0

CH 122 - GENERAL CHEMISTRY ENGINEERS

Semester Hours: 3

This course is designed as a one semester presentation of key aspects in general chemistry and is recommended for all engineering majors except chemical engineers. Covers topic on atoms and molecules: reactions and stoichiometry; gases; the periodic table; atomic structure, chemical bonding and molecular structure; materials; energy, entropy, and free energy; kinetics and equilibrium; and electrochemistry. Substitutes for CH 121 when transferred to any other curriculum.

CH 123 - GENERAL CHEMISTRY II

Semester Hours: 3

Continuation of CH 121 with in-depth study of topics listed. To be taken concurrently with CH 126. Prerequisite: CH 121 or CH 121M.

CH 123R - RECITATION

Semester Hours: 0

CH 125 - GENERAL CHEMISTRY LAB I

Semester Hour: 1

Complements the lecture material for CH 121. Includes the determination of chemical and physical properties of materials, synthesis and characterization, and introduction to spectroscopy. Prerequisite with concurrency: CH 121 or CH 121M.

CH 126 - GENERAL CHEMISTRY LAB II

Semester Hour: 1

Complements the lecture material of CH 123. Includes an introduction to qualitative and quantitative analytical techniques. Prerequisite with concurrency: CH 123.

CH 151 - GENERAL, ORGANIC, BIOCHEMISTRY

Semester Hours: 3

Explore forms and behaviors of matter, composition of atoms with inorganic, nuclear, organic and biochemical reactions. Use bonding and nonbonding interactions to predict physical and chemical properties of atoms and compounds. Apply these concepts to nomenclature, reactivity, biological activity. Prerequisite: MA 112 with concurrency Co-requisite: CH 155.

CH 155 - GENORGBIOCHEM LAB

Semester Hour: 1

Complements the lecture material for CH 151. Laboratory fundamentals and basic chemical principles. Introduction to laboratory safety, practices, equipment and principles. This will include exploration of chemical bonding, gas laws, preparation of solutions, organic and biochemical concepts such as carbohydrates, lipids, and protein synthesis. Prerequisite with concurrency: CH 151.

CH 191 - FUNDAMENTALS OF CHEMICAL RES

Semester Hour: 1

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 192 - FUNDAMENTALS OF CHEMICAL RES

Semester Hours: 2

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 193 - FUNDAMENTALS OF CHEMICAL RES

Semester Hours: 3

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 201 - ELEM ORGANIC CHEMISTRY

Semester Hours: 3

Survey of nomenclature, structure, functional groups, properties and reactions of organic compounds. Prerequisites: (CH 101 and 105) OR (CH 121/CH 121M and 125). Prerequisite with concurrency: CH 205.

CH 205 - ELEM ORGANIC CHEMISTRY LAB

Semester Hour: 1

Laboratory component of CH 201. Includes reactions of organic compounds and functional group modifications. Prerequisite with concurrency: CH 201. Prerequisites: (CH 101 and CH 105) or (CH 121 and CH 125).

CH 223 - QUANTITATIVE ANALYSIS

Semester Hours: 3

Introduction to quantitative analytical chemistry including instrumentation. Data treatment, ionic equilibria, elementary electrochemical, spectrochemical, gravimetric, and volumetric techniques. Prerequisite: CH 126. Prerequisite with concurrency: CH 224.

CH 224 - QUANTITATIVE ANALYSIS LAB

Semester Hour: 1

Introduction to quantitative analytical chemistry laboratory. Experiments include pH measurements, spectrochemical, gravimetric, and volumetric titrations. Prerequisite: CH 126. Prerequisite with concurrency: CH 223.

CH 301 - ELEMENTARY BIOCHEMISTRY

Semester Hours: 3

Survey of structure and function of carbohydrates, lipids, proteins and nucleic acids. Enzyme properties and functions. Major metabolic pathways, interactions, and regulation. No credit given to chemistry majors or minors. Credit in CH 361 precludes credit in CH 301. Same as BYS 301.

Prerequisites: BYS 119 and BYS 120 and either CH 201 or CH 331.

CH 311L - ORGANIC CHEM I LAB/OAKWOOD

Semester Hour: 1

CH 331 - ORGANIC CHEMISTRY I

Semester Hours: 3

Lecture/Lab includes one two-hour recitation per week. Chemistry of organic compounds. Synthetic methods, theory, and reaction mechanisms.

Prerequisite: CH 123.

CH 331R - ORGANIC CHEM I RECITATION

Semester Hours: 0

To be taken as a co-requisite with CH 331. Organic chemistry problem solving, including nomenclature, reactions, mechanisms, spectroscopy, and test-taking strategy.

CH 332 - ORGANIC CHEMISTRY II

Semester Hours: 3

Lecture/Lab Includes one two-hour recitation per week. Continuation of CH 331. Prerequisite: CH 331.

CH 332R - ORGANIC CHEM II RECITATION

Semester Hours: 0

To be taken as a co-requisite with CH 332. Organic chemistry problem solving, including nomenclature, reactions, mechanisms, spectroscopy, and test-taking strategy.

CH 335 - ORGANIC CHEMISTRY LAB I

Semester Hour: 1

Techniques of organic chemistry including synthesis, separation, and identification of organic compounds with use of chemical and spectroscopic methods. Prerequisite with concurrency: CH 331. Prerequisite: CH 126.

CH 336 - ORGANIC CHEMISTRY LAB II

Semester Hour: 1

Continuation of CH 335. Prerequisite: CH 335. Prerequisite with concurrency: CH 332.

CH 337 - ORGANIC CHEMISTRY LAB III

Semester Hours: 2

Advanced organic chemistry laboratory treating reactions and techniques not covered in CH 335 and 336. Pursuit of a special open-ended problem by each student. Prerequisite: CH 336 and approval of instructor.

CH 341 - PHYSICAL CHEMISTRY I

Semester Hours: 3

An introduction to physical chemistry encompassing: the kinetic theory of gases, the laws of thermodynamics, chemical equilibrium, phase equilibria, electrolyte solutions, electrochemistry and elementary theories of statistical thermodynamics. Credit in CH 341 precludes credit in CH 347. Prerequisites: CH 123, PH 112, MA 201, PH 115.

CH 342 - PHYSICAL CHEMISTRY II

Semester Hours: 3

A survey of additional fundamental concepts of physical chemistry including: chemical kinetics, quantum chemistry, atomic structure, group theory, spectroscopy (i.e. IR, Raman, NMR, EMR, etc.), and surface and colloid chemistry. Credit in 342 precludes credit in CH 348. Prerequisite: CH 341.

CH 343 - INTRO TO QUANTUM CHEM

Semester Hours: 3

Quantum mechanical treatment of atoms, molecules, and spectroscopy. Prerequisites: CH 341 and MA 238.

CH 345 - EXPERIMENTAL PHYSICAL CHEM I

Semester Hour: 1

Laboratory and computer investigation into topics covered in physical chemistry CH 341. Includes thermodynamics, chemical equilibria and electrochemistry. The lab involves report writing, data and error analysis, error propagation and linear and nonlinear regression using appropriate software. Prerequisites: CH 223 and 224. Prerequisite with concurrency: CH 341 or 347.

CH 346 - EXPERIMENTAL PHYSICAL CHEM II

Semester Hour: 1

Laboratory and computer investigations into topics covered in physical chemistry CH 342. Includes kinetics, quantum mechanics and spectroscopy. The lab involves report writing, data and error analysis, error propagation and linear and nonlinear regression using appropriate software. Prerequisite: CH 345. Prerequisite with concurrency: CH 342 or 348.

CH 347 - BIOPHYSICAL CHEMISTRY I

Semester Hours: 3

Computers for data analysis and simulations. First and second laws of thermodynamics. Free energy and equilibrium. Calorimetry. Protein stability. Binding and Interactions. Solution thermodynamics. Electrolytes. Electrochemistry. Biochemical reaction kinetics. Enzyme catalysis. Same as BYS 347. Prerequisites: CH 332, PH 112 and MA 172, PH 115.

CH 348 - BIOPHYSICAL CHEMISTRY II

Semester Hours: 3

Quantum mechanics. Statistical thermodynamics. Spectroscopy, including UV-VIS, Fluorescence. Circular dichroism, NMR. Structure determinations. Same as BYS 348. Prerequisite: CH 347.

CH 351 - PHYS CHEM IN PRACTICE

Semester Hours: 3

Fundamental concepts and principles from chemical thermodynamics and reaction dynamics in practice. States of matter; energy and entropy; thermodynamic laws; chemical and phase equilibria; mixtures; and reaction rates, kinetics, and mechanisms. Derivations and computer applications of formula. Restricted to Chemical Engineering major only. Prerequisites: ENG 101 and CH 123 and MA 201 and either PH 112 or CHE 201.

CH 361 - GENERAL BIOCHEMISTRY

Semester Hours: 3

Nomenclature, structure, function, properties, and metabolism of amino acids, carbohydrates, lipids, and nucleic acids. Enzyme function, major catabolic pathways, their interrelations and control mechanisms. Glycolysis, Citric Acid Cycle, and oxidative phosphorylation. Same as BYS 361. Prerequisites: (BYS 120, CH 332 and CH 335) or (BYS 311, CH 332 and CH 335).

CH 362 - GENERAL BIOCHEMISTRY LAB

Semester Hour: 1

Lecture/Lab One 3-hour lab a week. Practical experience in isolation, qualitative identification, and quantitative estimation of biomolecules. Same as BYS 362. Prerequisites: CH 335 and 336. Prerequisite with concurrency: CH 361.

CH 363 - GEN BIOCHEMISTRY II

Semester Hours: 3

A continuation of CH 361 to include fatty acid and amino acid oxidation, enzymatic synthesis of biomolecules, integration of metabolic processes, DNA and RNA metabolism including replication and transcription, translation and protein synthesis, and regulation of gene expression. Same as BYS 363. Prerequisite: CH 361.

CH 364 - GEN BIOCHEMISTRY LAB II

Semester Hour: 1

Experimental course illustrating the topics in CH 363. Prerequisites: CH 361 and 362. Prerequisite with concurrency: CH 363.

CH 401 - INORGANIC CHEMISTRY

Semester Hours: 3

Fundamental topics in inorganic chemistry. Atomic structure, chemical bonding, symmetry, acid-base theories, non-aqueous solvents, coordination chemistry, crystal field and ligand field theory, main group and transition metal chemistry, organometallics, catalysis, and bioinorganic chemistry.

Prerequisite: CH 332.

CH 402 - INORGANIC CHEMISTRY LAB

Semester Hour: 1

Laboratory techniques of inorganic chemistry including synthesis, purification, isolation, and identification of inorganic compounds. Prerequisite with concurrency: CH 401.

CH 421 - INSTRUMENTAL ANALYSIS

Semester Hours: 4

Introduction to modern analytical instrumentation including IR, UV and atomic absorption spectrophotometers, nuclear magnetic resonance, electroanalytical equipment, and gas and liquid chromatographs. Lecture and laboratory. Prerequisite with concurrency: CH 347, or BYS 347, or CH 341. Corequisite: CH 421L.

CH 421L - INSTRUMENTAL ANALYSIS LAB

Semester Hours: 0

Complements the lecture material for CH 421. Introduction to modern analytical instrumentation including IR, UV and atomic absorption spectrophotometers, nuclear magnetic resonance, electroanalytical equipment, and gas and liquid chromatographs. Prerequisites with concurrency: CH 341 or CH 347 or BYS 347. Corequisite: CH 421.

CH 435 - CHEMICAL TOXICOLOGY

Semester Hours: 3

An introduction to the principles of chemical toxicology, including the effects of drugs, environmental pollutants, natural toxins and venoms, and other potentially hazardous chemicals, at the physiological, cellular, and molecular level. Prerequisites: CH 332 and CH 361.

CH 440 - POLYMER SYNTHESIS & CHARACTERI

Semester Hours: 3

Synthesis of commercially relevant and novel polymers. Polymer characteristics and a discussion of the structural dependence of polymer properties. Course completion and/or grade requirements for undergraduate credit will differ from those for graduate credit. Prerequisites: CH 331 and CH 332.

CH 480 - SELECTED TOPICS IN CHEM

Semester Hours: 1-3

Special offerings to students in areas of interest not covered in present curriculum. Prerequisites: senior standing and approval of instructor.

CH 491 - INTRO TO CHEMICAL RESEARCH

Semester Hour: 1

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

CH 492 - INTRO TO CHEMICAL RESEARCH

Semester Hours: 2

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

CH 493 - INTRO TO CHEMICAL RESEARCH

Semester Hours: 3

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

Chemistry, BS

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher

- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	

or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II

11-12

3-4

8

CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* 12

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Chemistry Majors (BCH)		36
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Biology:		16
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
Mathematics: **		8
MA 171	CALCULUS A	
MA 172	CALCULUS B	
Physics Sequence:		8

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II

Major Requirements

Code	Title	Semester Hours
Chemistry Core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332	ORGANIC CHEMISTRY II	
CH 401	INORGANIC CHEMISTRY	
Chemistry Required Courses:		15
CH 336	ORGANIC CHEMISTRY LAB II	
CH 345	EXPERIMENTAL PHYSICAL CHEM I	
CH 361	GENERAL BIOCHEMISTRY	
CH 421	INSTRUMENTAL ANALYSIS	
Choose one sequence:		
CH 341 & CH 342	PHYSICAL CHEMISTRY I and PHYSICAL CHEMISTRY II	
OR		
CH 347 & CH 348	BIOPHYSICAL CHEMISTRY I and BIOPHYSICAL CHEMISTRY II	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
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Total Degree Hours	120
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* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the minor.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16

Spring

BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2

Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
Literature		3
Term Semester Hours:		15

Spring

BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
Fine art		3
Term Semester Hours:		15

Year 3

Fall		
CH 361	GENERAL BIOCHEMISTRY	3
CH 401	INORGANIC CHEMISTRY ^{FA}	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
History		3
Social and Behavioral Science		3
Term Semester Hours:		16

Spring

Chemistry Elective * (300+ or 400+ course) ^{SP}		1
CM 113	Intro to Rhetorical Communication	3
History		3
Social and Behavioral science		3

General Elective		3
General Elective		1
Term Semester Hours:		14
Year 4		
Fall		
CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
CH 341	PHYSICAL CHEMISTRY I ^{FA}	3
or CH 347	or BIOPHYSICAL CHEMISTRY I	
CH 345	EXPERIMENTAL PHYSICAL CHEM I ^{FA}	1
General Elective		3
General Elective		3
Term Semester Hours:		14
Spring		
CH 342	PHYSICAL CHEMISTRY II ^{SP}	3
or CH 348	or BIOPHYSICAL CHEMISTRY II	
Humanities, 2nd Fine art or 2nd Literature		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

* CH 402 - Inorganic Chemistry Lab is strongly recommended.

Chemistry, BS - Chemical Business Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3

ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	

ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	

ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Chemistry Majors (CHBU)		36
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Biology:		16
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
Mathematics: **		8
MA 171	CALCULUS A	
MA 172	CALCULUS B	
Physics Sequence:		8
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

Major Requirements

Code	Title	Semester Hours
Chemistry core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332	ORGANIC CHEMISTRY II	
CH 401	INORGANIC CHEMISTRY	
Chemical Business Concentration Required Courses:		17
CH 336	ORGANIC CHEMISTRY LAB II	

CH 341	PHYSICAL CHEMISTRY I
CH 345	EXPERIMENTAL PHYSICAL CHEM I
CH 347	BIOPHYSICAL CHEMISTRY I
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB
CH 402	INORGANIC CHEMISTRY LAB
CH 421	INSTRUMENTAL ANALYSIS

Required Business Minor

Code	Title	Semester Hours
Business Minor Requirements:		22
ACC 210	ACCOUNTING FOR BUSINESS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
MSC 287	BUSINESS STATISTICS I	
or ISE 390	PROB & ENGR STATISTICS I	
or MA 385	INTRO TO PROBABILITY & STATIST	
or PY 300	PSYCHOLOGICAL STATISTICS	
or SOC 303	STATISTICS/SOCIAL SCIENCES	
or ST 281	ELEMENTS OF STAT ANALYSIS	
FIN 301	PRINCIPLES OF FINANCE	
MGT 301	MANAGING ORGANIZATIONS	
MKT 301	PRINCIPLES OF MARKETING	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the minor.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4

EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16
Spring		
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15
Year 2		
Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
ECN 142	PRINC OF MACROECONOMICS	3
Term Semester Hours:		15
Spring		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
ECN 143	PRINC OF MICROECONOMICS	3
Term Semester Hours:		15
Year 3		
Fall		
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
CH 401	INORGANIC CHEMISTRY ^{FA}	3
Fine Art		3
Literature		3
General Elective		3
Term Semester Hours:		16
Spring		
CH 402	INORGANIC CHEMISTRY LAB ^{SP}	1
CM 113	Intro to Rhetorical Communication	3
ACC 210	ACCOUNTING FOR BUSINESS	4
MSC 287	BUSINESS STATISTICS I	3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		14
Year 4		
Fall		
CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
CH 341 or CH 347	PHYSICAL CHEMISTRY I ^{FA} or BIOPHYSICAL CHEMISTRY I	3
CH 345	EXPERIMENTAL PHYSICAL CHEM I ^{FA}	1
MKT 301	PRINCIPLES OF MARKETING	3

History		3
Term Semester Hours:		14
Spring		
FIN 301	PRINCIPLES OF FINANCE	3
MGT 301	MANAGING ORGANIZATIONS	3
History		3
General Elective		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Chemistry, BS - Biochemistry Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	

EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	

MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Chemistry Majors (BIOC)		20
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Mathematics: **		8
MA 171	CALCULUS A	
MA 172	CALCULUS B	
Physics sequence:		8
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

Major Requirements

Code	Title	Semester Hours
Chemistry core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I ⁵	
CH 332	ORGANIC CHEMISTRY II ⁵	
CH 401	INORGANIC CHEMISTRY	
Biochemistry Concentration Required Courses:		23-25
CH 336	ORGANIC CHEMISTRY LAB II	
CH 345	EXPERIMENTAL PHYSICAL CHEM I	
CH 346	EXPERIMENTAL PHYSICAL CHEM II	
CH 347	BIOPHYSICAL CHEMISTRY I	
CH 348 & CH 346	BIOPHYSICAL CHEMISTRY II and EXPERIMENTAL PHYSICAL CHEM II	
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	
CH 363 & CH 364	GEN BIOCHEMISTRY II and GEN BIOCHEMISTRY LAB II	
CH 402	INORGANIC CHEMISTRY LAB	
CH 421	INSTRUMENTAL ANALYSIS	
CH 491	INTRO TO CHEMICAL RESEARCH	
or CH 492	INTRO TO CHEMICAL RESEARCH	
or CH 493	INTRO TO CHEMICAL RESEARCH	

Required Biology Minor

Code	Title	Semester Hours
Biology Minor Requirements:		21
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300	CELL & DEVELOPMENTAL BIOLOGY	
Choose one:		
BYS 430 or BYS 464	IMMUNOLOGY EVOLUTION	
300-level or higher BYS courses		

General Electives

Code	Title	Semester Hours
Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.		
No more than 4 credits of 100-level HPE courses can count toward degree requirements.		
Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the major.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE FA	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16
Spring		
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2**Fall**

BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
Literature		3

Term Semester Hours: 15

Spring

BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
Social and Behavioral science		3

Term Semester Hours: 15

Year 3**Fall**

CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
CH 401	INORGANIC CHEMISTRY ^{FA}	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
CM 113	Intro to Rhetorical Communication	3
History		3

Term Semester Hours: 17

Spring

CH 363 & CH 364	GEN BIOCHEMISTRY II and GEN BIOCHEMISTRY LAB II	4
CH 402	INORGANIC CHEMISTRY LAB ^{SP}	1
Fine Art		3
History		3
Social and Behavioral Science		3

Term Semester Hours: 14

Year 4**Fall**

CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
CH 347 & CH 345	BIOPHYSICAL CHEMISTRY I and EXPERIMENTAL PHYSICAL CHEM I	4
BYS 464	EVOLUTION ^{FA}	3
Take BYS 464 or BYS 430 Immunology SP semester		
Humanities, 2nd Fine art or 2nd Literature		3

Term Semester Hours: 14

Spring

CH 348 & CH 346	BIOPHYSICAL CHEMISTRY II and EXPERIMENTAL PHYSICAL CHEM II	4
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CH 491	INTRO TO CHEMICAL RESEARCH	1
or CH 492	or INTRO TO CHEMICAL RESEARCH	
or CH 493	or INTRO TO CHEMICAL RESEARCH	
General Elective		3
General Elective		3
General Elective		3
Term Semester Hours:		14
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Chemistry, BS - Pure Chemistry Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see [here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	

EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	

MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Chemistry Majors (PURC)		40
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Biology:		16
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	
Mathematics:		12
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
Physics Sequence:		8
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	

Major Requirements

Code	Title	Semester Hours
Chemistry core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332	ORGANIC CHEMISTRY II ⁵	
CH 401	INORGANIC CHEMISTRY	
Pure Chemistry Concentration Required Courses:		21-23
CH 336	ORGANIC CHEMISTRY LAB II	
CH 337	ORGANIC CHEMISTRY LAB III	
CH 341	PHYSICAL CHEMISTRY I	
CH 342	PHYSICAL CHEMISTRY II	
CH 346	EXPERIMENTAL PHYSICAL CHEM II	
CH 345	EXPERIMENTAL PHYSICAL CHEM I	
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	
CH 402	INORGANIC CHEMISTRY LAB	
CH 421	INSTRUMENTAL ANALYSIS	
CH 491	INTRO TO CHEMICAL RESEARCH	

or CH 492	INTRO TO CHEMICAL RESEARCH
or CH 493	INTRO TO CHEMICAL RESEARCH

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
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Total Degree Hours	120
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- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the major.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1		
Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16
Spring		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15
Year 2		
Fall		
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
MA 201	CALCULUS C	4
Term Semester Hours:		16
Spring		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4

CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
Fine art		3
Term Semester Hours:		15
Year 3		
Fall		
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
CH 401	INORGANIC CHEMISTRY ^{FA}	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Social and Behavioral science		3
Term Semester Hours:		14
Spring		
CH 402	INORGANIC CHEMISTRY LAB ^{SP}	1
CH 337	ORGANIC CHEMISTRY LAB III	2
Social and Behavioral Science		3
History		3
Literature		3
General Elective (300+ or 400+ course)		3
Term Semester Hours:		15
Year 4		
Fall		
CH 341 & CH 345	PHYSICAL CHEMISTRY I and EXPERIMENTAL PHYSICAL CHEM I	4
CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
History		3
General Elective		3
General Elective		2
Term Semester Hours:		16
Spring		
CH 342 & CH 346	PHYSICAL CHEMISTRY II and EXPERIMENTAL PHYSICAL CHEM II	4
CM 113	Intro to Rhetorical Communication	3
CH 493	INTRO TO CHEMICAL RESEARCH	3
or CH 491	or INTRO TO CHEMICAL RESEARCH	
or CH 492	or INTRO TO CHEMICAL RESEARCH	
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		13
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Chemistry, BS - Chemical Physics Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC	

or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12****Mathematics****3-4**

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)**8**

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* 12

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Chemistry Majors (CHPH)		
Courses in this area may also be used to fulfill Charger Foundations requirements		30
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Biology:		8
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	

MA 238	APPL DIFFERENTIAL EQUATIONS
MA 244	INTRO TO LINEAR ALGEBRA

Major Requirements

Code	Title	Semester Hours
Chemistry core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332	ORGANIC CHEMISTRY II	
CH 401	INORGANIC CHEMISTRY	
Chemical Physics Concentration Required Courses:		29-31
CH 336	ORGANIC CHEMISTRY LAB II ⁵	
CH 341 & CH 345	PHYSICAL CHEMISTRY I and EXPERIMENTAL PHYSICAL CHEM I	
CH 342 & CH 346	PHYSICAL CHEMISTRY II and EXPERIMENTAL PHYSICAL CHEM II	
CH 345	EXPERIMENTAL PHYSICAL CHEM I	
CH 402	INORGANIC CHEMISTRY LAB	
CH 421	INSTRUMENTAL ANALYSIS	
CH 491	INTRO TO CHEMICAL RESEARCH	
or CH 492	INTRO TO CHEMICAL RESEARCH	
or CH 493	INTRO TO CHEMICAL RESEARCH	
PH 251	SPECIAL RELATIVITY	
PH 431	INTERM ELECTRIC & MAGNETISM I	
PH 432	INTERM ELECTRIC & MAGNETISM II	
PH 451	INTRO QUANTUM MECHANICS I	
PH 452	INTRO QUANTUM MECHANICS II	

Required Physics Minor

Code	Title	Semester Hours
Physics Minor Requirements:		21
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
PH 305	MATH METHODS IN PHYSICS	
PH 351	INTRODUCTION TO MODERN PHYSICS	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 132 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		132

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the minor.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
PH 110	FRONTIERS IN SCIENCE ^{FA}	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Fine art		3
Term Semester Hours:		18

Year 2

Fall		
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Term Semester Hours:		16
Spring		
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CH 332 & CH 336	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LAB II	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY ^{SP}	1
Term Semester Hours:		16

Year 3**Fall**

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 341	PHYSICAL CHEMISTRY I ^{FA}	3
CH 345	EXPERIMENTAL PHYSICAL CHEM I ^{FA}	1
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 351	INTRODUCTION TO MODERN PHYSICS	3
History		3
Term Semester Hours:		17
Spring		
CH 342	PHYSICAL CHEMISTRY II ^{SP}	3
CH 346	EXPERIMENTAL PHYSICAL CHEM II ^{SP}	1
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4
CM 113	Intro to Rhetorical Communication	3
PH 305	MATH METHODS IN PHYSICS ^{SP}	3
History		3
Term Semester Hours:		17
Year 4		
Fall		
CH 401	INORGANIC CHEMISTRY ^{FA}	3
CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
PH 431	INTERM ELECTRICI MAGNETISM I ^{FA}	3
PH 451	INTRO QUANTUM MECHANICS I ^{FA}	3
Literature		3
Term Semester Hours:		16
Spring		
CH 402	INORGANIC CHEMISTRY LAB ^{SP}	1
CH 491	INTRO TO CHEMICAL RESEARCH	1
or CH 492	or INTRO TO CHEMICAL RESEARCH	
or CH 493	or INTRO TO CHEMICAL RESEARCH	
PH 432	INTERM ELECTRIC MAGNETISM II ^{SP}	3
PH 452	INTRO QUANTUM MECHANICS II ^{SP}	3
Social and Behavioral Science		3
Social and Behavioral Science		3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		17
Total Semester Hours:		132

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Chemistry, BS - Environmental Chemistry Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.

- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	

WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II

11-12

3-4

8

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
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For Chemistry Majors (ENVC) **40**

Courses in this area may also be used to fulfill Charger Foundations requirements

First Year Experience: 1

FYE 101S	CHARGER SUCCESS - SCIENCE	
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Communications: 3

CM 113	Intro to Rhetorical Communication	
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Biology: 16

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB

Mathematics: ** 12

MA 171	CALCULUS A
MA 172	CALCULUS B
MA 201	CALCULUS C

Physics Sequence: 8

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
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PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
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Major Requirements

Code	Title	Semester Hours
Chemistry core:		22
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	
CH 332	ORGANIC CHEMISTRY II	
CH 401	INORGANIC CHEMISTRY	
Environmental Chemistry Concentration Required Courses:		37-39
Atmospheric & Earth Science		20
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
AES 301	INTRO TO EARTH & ATMOSPHERIC PHYS	
AES 305	HYDROLOGY	
AES 321	POLLUTION PROBLEMS	
AES 420	INTRO ATMOSPHERIC CHEM & AIR POLLU	
Chemistry		17-19
CH 341	PHYSICAL CHEMISTRY I	
CH 342	PHYSICAL CHEMISTRY II	
CH 345	EXPERIMENTAL PHYSICAL CHEM I	
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	
CH 402	INORGANIC CHEMISTRY LAB	
CH 421	INSTRUMENTAL ANALYSIS	
CH 491	INTRO TO CHEMICAL RESEARCH	
or CH 492	INTRO TO CHEMICAL RESEARCH	
or CH 493	INTRO TO CHEMICAL RESEARCH	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 126 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		126

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Courses in organic chemistry completed at the 2-year college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the minor.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

		Semester Hours
Fall		
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	4
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		16

Spring		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2

Fall		
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	4
BYS 219 & BYS 221	GENETICS AND EVOLUTION and LABORATORY	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
MA 201	CALCULUS C	4
Term Semester Hours:		16

Spring		
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	4
CH 332	ORGANIC CHEMISTRY II	3
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
Fine art		3
Term Semester Hours:		14

Year 3

Fall		
BYS 300 & 300L	CELL & DEVELOPMENTAL BIOLOGY and CELL & DEVELOPMENT BIO LAB	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Literature		3
Term Semester Hours:		15

Spring		
CH 361 & CH 362	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY LAB	4

AES 301	INTRO TO EARTH ATMOSPHERIC PHYS ^{SP}	3
AES 305	HYDROLOGY ^{SP}	3
CM 113	Intro to Rhetorical Communication	3
Social and Behavioral science		3
Term Semester Hours:		16
Year 4		
Fall		
CH 341	PHYSICAL CHEMISTRY I ^{FA}	3
CH 345	EXPERIMENTAL PHYSICAL CHEM I ^{FA}	1
CH 401	INORGANIC CHEMISTRY ^{FA}	3
CH 421	INSTRUMENTAL ANALYSIS ^{FA}	4
AES 321	POLLUTION PROBLEMS ^{FA}	3
History		3
Term Semester Hours:		17
Spring		
CH 342	PHYSICAL CHEMISTRY II ^{SP}	3
CH 402	INORGANIC CHEMISTRY LAB ^{SP}	1
CH 491	INTRO TO CHEMICAL RESEARCH	1
or CH 492	or INTRO TO CHEMICAL RESEARCH	
or CH 493	or INTRO TO CHEMICAL RESEARCH	
AES 420	INTRO ATMOSPHERIC CHEM AIR POLLU ^{SP}	3
History		3
Social and Behavioral science		3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		17
Total Semester Hours:		126

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Chemistry Minor

Course sequences for students wishing to minor in chemistry require at least 21 semester hours of chemistry including 6 or more semester hours numbered 300 or above. Courses in organic chemistry completed at the junior college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH but do not count toward the 300-level requirements of the minor.

Code	Title	Semester Hours
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
CH 223 & CH 224	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LAB	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 332	ORGANIC CHEMISTRY II	3
CH 361	GENERAL BIOCHEMISTRY ¹	1-3
or CH 341	PHYSICAL CHEMISTRY I	
or CH 347	BIOPHYSICAL CHEMISTRY I	
or CH 362	GENERAL BIOCHEMISTRY LAB	

or CH 440	POLYMER SYNTHESIS & CHARACTERI	
Additional credits to reach 21 ¹		0-1
Total Credits		21-22

¹ Additional prerequisites may exist for courses numbered higher than CH 332.

Chemistry Minor for Chemical Engineering Majors

Course sequences for students wishing to minor in chemistry require at least 21 semester hours of chemistry including 6 or more semester hours numbered 300 or above. Courses in organic chemistry completed at the junior college level may be used to satisfy semester hour and prerequisite requirements for upper level chemistry courses at UAH, but do not count toward the 300-level requirements of the minor.

Code	Title	Semester Hours
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
CH 331 & CH 335	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LAB I	4
CH 332	ORGANIC CHEMISTRY II	3
CH 341	PHYSICAL CHEMISTRY I	3
Choose one based on area of concentration:		
CH 440 or CH 361	POLYMER SYNTHESIS & CHARACTERI GENERAL BIOCHEMISTRY	3
Total semester hours		21

Computer Science

N300 Olin B King Technology Hall
Telephone: 256.824.6088
Email: info@cs.uah.edu

Chair: Dr. Letha Etzkorn (<https://www.uah.edu/science/faculty-staff/letha-etzkorn/>)

The Computer Science department offers the following undergraduate degrees:

- Computer Science, BS (p. 647)
- Computer Science, BS - Data Science Concentration (p. 653)
- Computer Science, BS - Entertainment Computing Concentration (p. 659)
- Computer Science, BS - Web Programming Concentration (p. 665)

Program Objectives

As part of the department's continuous improvement and accreditation compliance, we seek the following objectives and outcomes for our graduates. Within 3-5 years of graduation, Computer Science alumni will:

- Create value for organization through the application and/or documentation of Computer Science principles.
- Show leadership capability and work effectively with others of varying backgrounds in team environments.
- Pursue professional development through graduate study and/or continuing education.

Learning Outcomes

The Computer Science program will have an ability to, by the time of graduation:

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Recognize the need for, and an ability to engage in, continuing professional development.

- Computer Science, BS (p. 647)
- Computer Science, BS - Data Science Concentration (p. 653)
- Computer Science, BS - Entertainment Computing Concentration (p. 659)
- Computer Science, BS - Web Programming Concentration (p. 665)
- Computer Science (p. 671)
- Computer Languages and Systems (p. 671)
- Entertainment Computing (p. 672)
- Data Science Certificate (p. 672)

CS 100 - INTRO COMPUTERS & PROGRAM

Semester Hours: 3

Overview of computer programming using Python. This course is a high level introduction to computing methods and programming basics for non-CS majors. Fundamental programming constructs are presented including program structure, control flow and file utilization. Concepts are presented through class lectures supplemented with simple hands-on programming assignments.

CS 102 - INTRO TO C PROGRAMMING

Semester Hours: 3

Introduction to program design and implementation in the C programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, and file organization.

CS 103 - INTRO PROGRAMMING USING JAVA

Semester Hours: 3

Introduction to program design and implementation in the Java programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, data types, control structures, methods and file organization.

CS 104 - INTRO TO CS USING PYTHON

Semester Hours: 3

Introduction to program design and implementation in the Python programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, and file organization.

CS 105 - COMP SCI SEM:ETH/PROFESS

Semester Hour: 1

Issues associated with the ethical use of computers in the information age. Ethics, professionalism, software piracy, copyrighting software, ethical standards and the impact of computers on society will be covered. Familiarization with the local computing environment will also be covered.

CS 121 - COMPUTER SCIENCE I

Semester Hours: 3

Review of problem solving techniques, algorithm development, and fundamental language features; e.g., loops, decisions. In depth coverage of functions, arrays, I/O. Principles of software design, implementation, and testing. Introduction to object oriented design and the C++ programming language. Prerequisites: CS 102 or 103 or 104, and either MA 113, 115, 120, 171, 172, 201, 238, or 244 (with concurrency).

CS 143 - INTRO TECH MULTIMEDIA & GAMING

Semester Hours: 3

Introduction to terminology, technologies and tools for multimedia and gaming. Elements such as text, sound, images, animation, video, and how they are represented, captured, edited, stored, and published. Overview of multimedia and gaming technologies, multimedia authoring, publishing on the web.

CS 214 - INTRO DISCRETE STRUCTURE

Semester Hours: 3

Review of set algebra including mappings and relations. Algebraic structures including semigroups and groups. Elements of theory of directed and undirected graphs; Boolean algebra and propositional logic and applications of these structures to various areas of computer science. Prerequisites: MA 171 and either CS 121 or CPE 211.

CS 217 - ANALYTIC TECH GAMING

Semester Hours: 3

Mathematics for understanding & implementing 3-dimensional graphics & interactive physical modeling in computer games. Topics: coordinate systems, vectors, matrices, transformations, kinematics, dynamics, automata, and probability. Focused on practical mathematics rather than theoretical derivations. Prerequisites: MA 120 or MA 171.

CS 221 - COMP SCI II: DATA STRUCTURES

Semester Hours: 3

Advanced features of the C++ programming language, including pointers, recursion, classes, and inheritance. Fundamental data structures including linked lists, stacks, queues, binary search trees. Basic sort and search algorithms. Design, development, and documentation of object-oriented programs. Prerequisites: CS 121 and either MA 113, or 115. Prerequisites with concurrency: MA 171 or CS 217.

CS 307 - OBJECT ORIENT/PROG C++

Semester Hours: 3

Emphasis on principles of software engineering and object-oriented design. Practical experience using the standard C++ library, the standard template library, and design patterns. Introduction to and experience with graphical user interface applications. Prerequisite: CS 221.

CS 308 - ASSEMBLY LANGUAGE PROGRAMMING

Semester Hours: 3

Programming in a representative assembly language, including floating point programming. Overview of software systems: loaders, assemblers, compiler, interpreters, operating systems. Prerequisite: CS 309.

CS 309 - COMPUTER ORG & SWITCHNG THRY

Semester Hours: 3

Boolean algebra, Boolean function minimization techniques, design and analysis of combinational circuits, design and analysis of sequential circuits. Computer hardware organization, including CPU, instruction representation and executive. Programing in a representative assembly language, including floating point programming. Overview of software systems: loaders, assembler, compiler, interpreters, operating systems. A lab section must be scheduled for this course. Prerequisite: CS 214.

CS 309L - LABORATORY

Semester Hours: 0

Lecture/Lab. Students enrolling in CS 309L must enroll concurrently in CS 309.

CS 317 - INTRO DESIGN/ANALYSIS OF ALG

Semester Hours: 3

Introduction to complexity analysis of algorithms; emphasis on searching, sorting, finding spanning trees and shortest paths in graphs. Design techniques such as divide & conquer, dynamic programming, and backtracking. Introduction to problem classification; i.e. NP, intractable, and unsolvable. Prerequisites: MA 171, MA 244 and CS 214, and either CS 221 or CPE 212.

CS 321 - INTRO OBJECT-ORIENTED PROG JAV

Semester Hours: 3

Writing substantial object-oriented programs in Java, including design, documentation and testing. Advanced data structures (e.g., balanced trees, hash tables). Graphical interface programming using the Java abstract windowing toolkit. Comparison with other object-oriented languages, notably C++. Prerequisite: CS 221.

CS 325 - PROFESSIONAL & COMPUTG ETHICS

Semester Hours: 3

The course focuses on two major aspects of professionalism and computer ethics. The first concerns the role of values and normative principles in the practice of computing or more specifically software development. The second concerns the impacts of computer technologies on society. Prerequisite with concurrency: CS 321.

CS 330 - ARTFCL INTEL & GAME DEV

Semester Hours: 3

Techniques and concepts of artificial intelligence applied game development and production. Topics: path planning, decision making, tactics, and non-rational behaviors. Prerequisite: CS 221.

CS 347 - INTRO VIDEO GAME DESGN & PROGM

Semester Hours: 3

Provides students with an overview of the video game production process. Covers both theory and practice of game design and programming. Students produce 2D and 3D games from beginning to end using existing game engines. Hands-on focus and project-oriented. CS 143 is highly recommended.

Prerequisite: CS 221.

CS 370 - INTRO COMPUTER NETWORKS

Semester Hours: 3

Introduction to the organization and operation of computer networks. Physical, Data Link, Network, Transport, and Application-layer protocols and algorithms; LAN and WAN systems; TCP/IP; wired and wireless organizations; security approaches. Prerequisite: CS 309.

CS 371 - MOBILE COMPUTING APP INCT & D

Semester Hours: 3

Considers application design for the mobile space with emphasis on mobile computer interfaces, including GUI for mobile environments, entertainment computing, and cross-platform development. This course is also a component of the Entertainment Computing Track. Prerequisites: CS 221 or CPE 212.

CS 390 - UNIX/LINUX PROGRAMMING

Semester Hours: 3

Design and development of systems and programs in the UNIX environment. File and terminal I/O, processes, inter-process communication, signals. Pattern searching, filters, pipes. Shell programming. Program and system development tools such as awk, C, make, sed, and yacc. Prerequisite: CS 221.

CS 391 - INT NETWORK ADMIN PRINC WINDOW

Semester Hours: 3

Network administration principles for installing and administrating Windows networks. OS installation, general network topologies and protocols, and Windows client-server architecture. User management, network file and security systems, and disaster-recovery are also covered. Prerequisite: CS 221.

CS 392 - INT NETWORK ADMIN PRINC FOR UN

Semester Hours: 3

Linux OS installation, network topologies and protocols, and UNIX client-server architecture. User management, network file and security systems, kernel configuration, print servers, domain name service, mail servers, Web and ftp servers are included. Design and implementation of a UNIX domain. Prerequisite: CS 390.

CS 396 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 397 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 398 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 403 - INT FORML LANG AUTO THRY

Semester Hours: 3

Introduction to concepts and formalisms of formal languages and automata theory. Includes fundamental mathematical concepts, grammars and corresponding automata, and deterministic parsing of programming languages. Prerequisite: CS 317.

CS 413 - INTRO DIGITAL COMP ARCHITECTUR

Semester Hours: 3

Design of computer systems and subsystems, including register transfer, bus structure, timing and control. Pipelining, memory systems including cache and cache coherence, arithmetic, and I/O units. Interrupt handling. A lab section must be scheduled for this course. Prerequisite: CS 309.

CS 413L - LABORATORY

Semester Hours: 0

Lecture/Lab. Students enrolling in CS 413L must enroll concurrently in CS 413.

CS 424 - PRINCIPLES PROGRAMMING LANG

Semester Hours: 3

Comparison of principles and paradigms of modern programming languages. How different programming languages implement lexical, syntax, and semantic analysis, including the design of compilers. Formal grammars, BNF notation, parse trees, and abstract data types. Prerequisite: CS 317.

CS 430 - SURVEY ARTIFICIAL INTELLIGENCE

Semester Hours: 3

Survey of Artificial Intelligence (AI). AI crosses many disciplines, to make computational systems behave intelligently. This course provides a broad intro of AI sub-domains, including search, knowledge representation, reasoning, and machine learning. Prerequisite: CS 317.

CS 443 - INTRO TO MULTIMEDIA SYSTEMS

Semester Hours: 3

Multimedia authoring, color models for image and video, introduction to image and video compression, digital audio, multimedia networks, multimedia synchronization, multimedia retrieval. Taught as CS 443, 543. Prerequisite: CS 317.

CS 445 - INTRO COMPUTER GRAPHICS

Semester Hours: 3

Introduces underlying theory and mechanics of interactive computer graphics. Basic modeling, rasterization, 2D/3D transformations, and viewing. 3D graphics rudiments. Some hardware and historical perspectives. Many programs. Taught as CS 545; take only one! Prerequisites: CS 221 and MA 244 or CS 217.

CS 446 - ADVANCED COMPUTER GRAPHICS

Semester Hours: 3

High resolution 3D graphics. Advanced topics in viewing, vertex &, fragment processing, illumination & shading, and 3D modeling (curve & surface representation, texture mapping. Some coverage of solid modeling and color theory. Game production pipeline. Many programming projects. Taught as CS 446, 546. Prerequisites: CS 445 and at least junior standing.

CS 447 - GAME ENGINES & LEVEL DEVELOPMNT

Semester Hours: 3

Students produce fully functional games from beginning to end with team members. Focused on engineering development and art asset generation and management. Examines the design, development, and distribution of computer games using game engines for cross-platform implementation. Taught as CS 447, 547. Prerequisites: CS 330 and CS 445.

CS 453 - CLIENT/SERVER ARCHITECTURES

Semester Hours: 3

Client/server distributed computing. Web based applications. Students will practice concepts in programs involving leading edge technologies such as AJAX, RESTful and WS-* web services. Enterprise Java Beans, .Net. Prerequisites: CS 307 or CS 321. CS 370 is recommended.

CS 454 - INTRO TO CLOUD COMPUTING

Semester Hours: 3

Different cloud computing paradigms: IaaS, SaaS, PaaS. Open Source cloud software (for ex., OpenStack, CloudStack). RESTful interfaces, AWS interface. Cloud Security. Taught as CS 454, 554. Prerequisites: CS 307 or CS 321 and CS 370 or CPE 348.

CS 465 - NETWORK SECURITY

Semester Hours: 3

Introduction to Network Security: Fundamentals of Network Security and Cryptography. Examines security at different network layers, wireless security, firewalls, intrusion detection, and penetration analysis. Prerequisites: CS 121, and (CS 221 or CPE 221), and (CS 370 or CPE 348).

CS 480 - MOBILE DIGITAL FORENSICS

Semester Hours: 3

This course examines digital forensics of mobile devices such as smart phones and tablets in a law enforcement context. Mobile device characteristics that make forensics examinations difficult are discussed. Various forensic tools are critically examined with an eye toward improved tool development. Prerequisites: CS 413 or CPE 323.

CS 481 - MODELING & SIMULATION I

Semester Hours: 3

Discrete event simulation from a computer science perspective. Mathematics of probability distributions applied to simulation. Design, implementation, and application of discrete event simulation software. Application to computer and network system design. Prerequisites: CS 221 and (MA 385 or ISE 390).

CS 482 - MODELING & SIMULATION II

Semester Hours: 3

Advanced modeling methods, including Monte Carlo simulation, agent-based modeling, and mathematical modeling, from a Computer Science perspective. Emphasis on implementation, execution, and validation of working computer models using different modeling methods. Prerequisite: CS 481.

CS 485 - COMPUTER & SOFTWARE SECURITY

Semester Hours: 3

This course examines the issues related to security policies, models and mechanisms applicable to providing security for computer-based systems including operating systems, database management systems, and networks. Corequisite: CS 490.

CS 487 - DATABASE SYSTEMS

Semester Hours: 3

Basic concepts of database management systems with a focus on relational and object-oriented systems. Database design including semantic models and normalization. Design issues including query languages, internal storage, recovery, concurrency, security, integrity, and query optimization. Senior standing required.

CS 488 - INTRO TO BIG DATA COMPUTING

Semester Hours: 3

Provides big data concepts and characteristics; big data architectural concepts; big data ecosystem. Includes MapReduce framework and programming and coverage of big data applications. Prerequisite: CS 317.

CS 490 - INTRO TO OPERATING SYSTEMS

Semester Hours: 3

Principles of operating systems. Process management, memory management, I/O management, and file systems. Specific topics include process states, threads, CPU scheduling, concurrent processing, virtual memory. Contemporary operating systems will be used as examples. Prerequisite: CS 413.

CS 495 - SEL TOPICS:UNDERGRAD CS

Semester Hours: 3

Individual directed study under the supervision of an instructor. Instructor approval required.

CS 496 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 497 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 498 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 499 - SR PROJ:TEAM SOFTWARE DESIGN

Semester Hours: 3

A combination of lectures on proven software engineering approaches, and team working sessions. Each student will participate in a sizable, complex, software development project based on a team approach. Each team will be required to provide oral and written documentation of their work. Prerequisite: CS 317.

Computer Science, BS

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.

- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	

or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences**11-12**

Mathematics

3-4

MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS

Natural Sciences (Lab)

8

AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I

PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Computer Science Majors		36
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Ethics: choose one		3
PHL 102	INTRO TO ETHICS	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Computer Programming: choose one		3
CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
Natural Sciences (Lab): choose one two-course sequence		8
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
or		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
or		

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 244	INTRO TO LINEAR ALGEBRA	
MA 385	INTRO TO PROBABILITY & STATIST	
Technical Elective:		3
EH 301	TECHNICAL WRITING	

Major Requirements

Code	Title	Semester Hours
Computer Science Core:		30
CS 121	COMPUTER SCIENCE I	
CS 214	INTRO DISCRETE STRUCTURE	
CS 221	COMP SCI II: DATA STRUCTURES	
CS 309 & 309L	COMPUTER ORG & SWTCHNG THRY and LABORATORY	
CS 317	INTRO DESIGN/ANALYSIS OF ALG	
CS 321	INTRO OBJECT-ORIENTED PROG JAV	
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	
CS 424	PRINCIPLES PROGRAMMING LANG	
CS 490	INTRO TO OPERATING SYSTEMS	
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	
Computer Science Elective Requirements: ¹		15
Choose four CS courses at the 300-level or higher not listed in the courses above to reach a minimum of 9 credit hours.		
Choose three CS courses at the 400-level or higher not listed in the courses above to reach a minimum of 6 credit hours.		

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

¹ Occasionally a Computer Engineering or Math Course may be used with prior approval by the Computer Science department. However, courses considered substantially duplicate courses will not both be allowed. For example: CS 370 & CPE 348, CS 307 & CPE 353, CS 485 & CPE 449.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Fine Art		3
Term Semester Hours:		14
Spring		
CS 121	COMPUTER SCIENCE I	3
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
PHL 102	INTRO TO ETHICS	3
or PHL 150	or TECH, SCIENCE & HUMAN VALUES	
Social and Behavioral Science		3
Term Semester Hours:		16

Year 2

Fall		
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 214	INTRO DISCRETE STRUCTURE	3
MA 201	CALCULUS C	4
Literature		3
History		3
Term Semester Hours:		16
Spring		
CS 309 & 309L	COMPUTER ORG & SWITCHING THRY and LABORATORY	3
CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
Computer Science Elective (CS 300+ or 300+ course) *		3
MA 244	INTRO TO LINEAR ALGEBRA	3
History		3
Term Semester Hours:		15

Year 3

Fall		
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
Computer Science Elective (300+ or 400+ course) *		3
MA 385	INTRO TO PROBABILITY STATIST	3
Lab science **		4
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		16
Spring		
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	3

Computer Science Elective (300+ or 400+ course)	3
Social and Behavioral Science	3
Lab science **	4

Term Semester Hours:	13
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Year 4**Fall**

CS 424	PRINCIPLES PROGRAMMING LANG	3
EH 301	TECHNICAL WRITING	3
Computer Science Elective (400+ course)		3
General Elective		3
General Elective		3

Term Semester Hours:	15
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Spring

CS 490	INTRO TO OPERATING SYSTEMS	3
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	3
Computer Science Elective (400+ course)		3
General Elective		3
General Elective		3

Term Semester Hours:	15
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Total Semester Hours:	120
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FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

* CS 307 & CS 370 are strongly recommended.

** Lab science sequence: Choose from AES 103/103L & AES 104/104L, BYS 119/121 & BYS 120/122, CH 121/125 & CH 123/126, or PH 111/114 & PH 112/115.

Computer Science, BS - Data Science

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	

Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU	

AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	

AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Computer Science Majors (DS)		36
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Ethics: choose one		3
PHL 102	INTRO TO ETHICS	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Computer Programming: choose one		3
CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
Natural Sciences (Lab): choose one two-course sequence		8
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
or		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
or		
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 244	INTRO TO LINEAR ALGEBRA	
MA 385	INTRO TO PROBABILITY & STATIST	
CS 102	INTRO TO C PROGRAMMING	

or CS 103	INTRO PROGRAMMING USING JAVA
or CS 104	INTRO TO CS USING PYTHON
Technical Elective:	
EH 301	TECHNICAL WRITING

3

Major Requirements

Code	Title	Semester Hours
Computer Science Core:		30
CS 121	COMPUTER SCIENCE I	
CS 214	INTRO DISCRETE STRUCTURE	
CS 221	COMP SCI II: DATA STRUCTURES	
CS 309 & 309L	COMPUTER ORG & SWITCHNG THRY and LABORATORY	
CS 317	INTRO DESIGN/ANALYSIS OF ALG	
CS 321	INTRO OBJECT-ORIENTED PROG JAV	
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	
CS 424	PRINCIPLES PROGRAMMING LANG	
CS 490	INTRO TO OPERATING SYSTEMS	
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	
Data Science Concentration Requirements:		6
CS 430	SURVEY ARTIFICIAL INTELLIGENCE	
CS 488	INTRO TO BIG DATA COMPUTING	
Data Science Concentration Elective Requirements:		9
Choose one:		
CS 443	INTRO TO MULTIMEDIA SYSTEMS	
or CS 445	INTRO COMPUTER GRAPHICS	
or CS 454	INTRO TO CLOUD COMPUTING	
or CS 481	MODELING & SIMULATION I	
or CS 482	MODELING & SIMULATION II	
or CS 487	DATABASE SYSTEMS	
Choose any two 300-level or higher CS courses ¹		

General Electives

Code	Title	Semester Hours
Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100-level HPE courses can count toward degree requirements.		
Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 (<https://catalog.uah.edu/search/?P=EH%20207>) or EH 242 (<https://catalog.uah.edu/search/?P=EH%20242>) or EH 209 (<https://catalog.uah.edu/search/?P=EH%20209>)) and one later literature (EH 208 (<https://catalog.uah.edu/search/?P=EH%20208>) or EH 210 (<https://catalog.uah.edu/search/?P=EH%20210>)). Acceptable history sequences are (HY 103 (<https://catalog.uah.edu/search/?P=HY%20103>) + HY 104 (<https://catalog.uah.edu/search/?P=HY%20104>)), or (HY 221 (<https://catalog.uah.edu/search/?P=HY%20221>) + HY 222 (<https://catalog.uah.edu/search/?P=HY%20222>))
- ** Based on Math Placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 (<https://catalog.uah.edu/search/?P=MA%20112>) and/or MA 113 (<https://catalog.uah.edu/search/?P=MA%20113>)) Mathematics courses may be required.

¹ Occasionally a Computer Engineering or Math Course may be used with prior approval by the Computer Science department. However, courses considered substantially duplicate courses will not both be allowed. For example: CS 370 & CPE 348, CS 307 & CPE 353, CS 485 & CPE 449.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

		Semester Hours
Fall		
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
PHL 102	INTRO TO ETHICS	3
or PHL 150	or TECH, SCIENCE & HUMAN VALUES	
Term Semester Hours:		14
Spring		
CS 121	COMPUTER SCIENCE I	3
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Fine Art		3
Social and Behavioral Science		3
Term Semester Hours:		16
Year 2		
Fall		
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 214	INTRO DISCRETE STRUCTURE	3
MA 201	CALCULUS C	4
Literature		3
Lab science **		4
Term Semester Hours:		17
Spring		
CS 309	COMPUTER ORG SWITCHNG THRY	3
CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
Computer Science Elective (300+ or 400+ course) [*]		3
MA 244	INTRO TO LINEAR ALGEBRA	3
Lab science **		4
Term Semester Hours:		16
Year 3		
Fall		
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
Computer Science Elective (300+ or 400+ course) [*]		3
MA 385	INTRO TO PROBABILITY STATIST	3
History		3
General Elective		3
Term Semester Hours:		15
Spring		
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	3
CS 424	PRINCIPLES PROGRAMMING LANG	3

History	3
Social and Behavioral Science	3
General Elective	3

Term Semester Hours:	15
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Year 4**Fall**

CS 430	SURVEY ARTIFICIAL INTELLIGENCE	3
CS 488	INTRO TO BIG DATA COMPUTING	3
EH 301	TECHNICAL WRITING	3
General Elective		3
General Elective		3

Term Semester Hours:	15
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Spring

CS 490	INTRO TO OPERATING SYSTEMS	3
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	3
CS 443	INTRO TO MULTIMEDIA SYSTEMS	3
or CS 445	or INTRO COMPUTER GRAPHICS	
or CS 454	or INTRO TO CLOUD COMPUTING	
or CS 481	or MODELING & SIMULATION I	
or CS 482	or MODELING & SIMULATION II	
or CS 487	or DATABASE SYSTEMS	
Humanities, 2nd Fine art or 2nd Literature		3

Term Semester Hours:	12
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Total Semester Hours:	120
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FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

* CS 307 (<https://catalog.uah.edu/search/?search=CS+307>) & CS 370 (<https://catalog.uah.edu/search/?search=CS+370>) are strongly recommended.

** Lab science sequence. Choose from: AES 103/103L & AES 104/104L, BYS 119/121 & BYS 120/122, CH 121/125 & CH 123/126, or PH 111/114 & PH 112/115.

Computer Science, BS - Entertainment Computing

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
or EH 101S	COLLEGE WRITING I W/STUDIO	

EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	

PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	

HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Computer Science Majors (ENCP)		36
Courses in this area may also be used to fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Ethics: choose one		3
PHL 102	INTRO TO ETHICS	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Computer Programming: choose one		3
CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
Natural Sciences (Lab): choose one two-course sequence		8
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	
AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY	
or		
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
or		
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
or		
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	

MA 244	INTRO TO LINEAR ALGEBRA	
MA 385	INTRO TO PROBABILITY & STATIST	
Technical Elective:		3
EH 301	TECHNICAL WRITING	

Major Requirements

Code	Title	Semester Hours
Computer Science Core:		30
CS 121	COMPUTER SCIENCE I	
CS 214	INTRO DISCRETE STRUCTURE	
CS 221	COMP SCI II: DATA STRUCTURES	
CS 309 & 309L	COMPUTER ORG & SWTCHNG THRY and LABORATORY	
CS 317	INTRO DESIGN/ANALYSIS OF ALG	
CS 321	INTRO OBJECT-ORIENTED PROG JAV	
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	
CS 424	PRINCIPLES PROGRAMMING LANG	
CS 490	INTRO TO OPERATING SYSTEMS	
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	
Entertainment Computing Concentration Requirements:		12
CS 143	INTRO TECH MULTIMEDIA & GAMING	
CS 330	ARTFCL INTEL & GAME DEV	
CS 347	INTRO VIDEO GAME DESGN & PROGM	
CS 445	INTRO COMPUTER GRAPHICS	
Entertainment Computing Concentration Elective Requirements:		9
Choose two courses from the following:		6
CS 371	MOBILE COMPUTING APP INCT & D	
CS 443	INTRO TO MULTIMEDIA SYSTEMS	
CS 446	ADVANCED COMPUTER GRAPHICS	
CS 447	GAME ENGINES & LEVEL DEVELPMNT	
Dramatic Media Elements: choose one		3
ARS 220	ANIMATION: INTRODUCTION	
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 321	ANIMATION: ORGANIC MODELING	
ARS 322	ANIMATION: 3D ANIMATION	
ARS 324	ANIMATION: TECHNICAL ARTS	
ARS 327	ANIMATION; VISUAL STORY DEV	
ARS 328	ANIMATION: CONCEPT ART	
ARS 334	GRAPH DES: WEB USER EXPER I	
ARS 350	PHOTO: DIGITAL I	
ARS 355	PHOTO: DOCUMENTARY I	
ARS 393	MULTIMEDIA I	
MU 306	MUSIC TECHNOLOGY IV	
CM 340	SPEC TOPICS IN COMM ARTS	
EH 410	FICTION WRITING	
TH 225	ELEMENTS OF THEATRE PRODUCTION	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
CS 143	INTRO TECH MULTIMEDIA GAMING ^{FA}	3
Term Semester Hours:		14
Spring		
CS 121	COMPUTER SCIENCE I	3
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
Fine art		3
Social and Behavioral Science		3
Term Semester Hours:		16

Year 2

Fall		
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 214	INTRO DISCRETE STRUCTURE	3
MA 201	CALCULUS C	4
PHL 102	INTRO TO ETHICS	3
or PHL 150	or TECH, SCIENCE & HUMAN VALUES	
History		3
Term Semester Hours:		16
Spring		
CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
CS 309 & 309L	COMPUTER ORG & SWTCHNG THRY and LABORATORY	3
MA 244	INTRO TO LINEAR ALGEBRA	3
History		4
General Elective		2
Term Semester Hours:		15

Year 3

Fall

CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
CS 347	INTRO VIDEO GAME DESGN PROGM	3
MA 385	INTRO TO PROBABILITY STATIST	3
Dramatic Media Elements course		3
Lab Science **		4
Term Semester Hours:		16

Spring

CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	3
CS 330	ARTFCL INTEL GAME DEV	3
Social and Behavioral Science		3
Humanities, 2nd Fine art or 2nd Literature		3
Lab science **		4
Term Semester Hours:		16

Year 4**Fall**

CS 371	MOBILE COMPUTING APP INCT D ^{FA}	3
CS 424	PRINCIPLES PROGRAMMING LANG	3
CS 445	INTRO COMPUTER GRAPHICS	3
EH 301	TECHNICAL WRITING	3
General Elective		3
Term Semester Hours:		15

Spring

CS 490	INTRO TO OPERATING SYSTEMS	3
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	3
CS 443 or CS 446	INTRO TO MULTIMEDIA SYSTEMS ^{SP} or ADVANCED COMPUTER GRAPHICS	3
Literature		3
Term Semester Hours:		12
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

** Lab science sequence. Choose from: AES 103/103L & AES 104/104L, BYS 119/121 & BYS 120/122, CH 121/125 & CH 123/126, or PH 111/114 & PH 112/115.

Computer Science, BS - Web Programming

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S or WLC 202A or WLC 202F	INTERM FOREIGN LANG II:SPANISH INTERM FOREIGN LANG II: ARABIC INTERM FOREIGN LANG II:FRENCH	

or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	3-4
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	8
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II

PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
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Area IV: History and Social and Behavioral Sciences* **12**

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
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For Computer Science Majors (WPG) **36**

Courses in this area may also be used to fulfill Charger Foundations requirements

First Year Experience: 1

FYE 101S	CHARGER SUCCESS - SCIENCE
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Ethics: choose one 3

PHL 102	INTRO TO ETHICS
PHL 150	TECH, SCIENCE & HUMAN VALUES

Computer Programming: choose one 3

CS 102	INTRO TO C PROGRAMMING
or CS 103	INTRO PROGRAMMING USING JAVA
or CS 104	INTRO TO CS USING PYTHON

Natural Sciences (Lab): choose one two-course sequence 8

AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY
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AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY
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or

BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
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BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
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or

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
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CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II (OR)
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or

PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 244	INTRO TO LINEAR ALGEBRA	
MA 385	INTRO TO PROBABILITY & STATIST	
Technical Elective:		3
EH 301	TECHNICAL WRITING	

Major Requirements

Code	Title	Semester Hours
Computer Science Core:		30
CS 121	COMPUTER SCIENCE I	
CS 214	INTRO DISCRETE STRUCTURE	
CS 221	COMP SCI II: DATA STRUCTURES	
CS 309 & 309L	COMPUTER ORG & SWITCHNG THRY and LABORATORY	
CS 317	INTRO DESIGN/ANALYSIS OF ALG	
CS 321	INTRO OBJECT-ORIENTED PROG JAV	
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	
CS 424	PRINCIPLES PROGRAMMING LANG	
CS 490	INTRO TO OPERATING SYSTEMS	
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	
Web Programming Concentration Requirements:		12
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 332	GRAPHIC DESIGN: WEB DESIGN	
CS 453	CLIENT/SERVER ARCHITECTURES	
CS 370	INTRO COMPUTER NETWORKS	
or CS 485	COMPUTER & SOFTWARE SECURITY	
or CS 487	DATABASE SYSTEMS	
Web Programming Concentration Elective Requirements:		4+
Choose any three 300-level or higher CS courses		

General Electives

Code	Title	Semester Hours
Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100-level HPE courses can count toward degree requirements.		
Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math Placement, prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
ARS 160	DRAWING: FOUNDATIONS	3
Term Semester Hours:		14

Spring

CS 121	COMPUTER SCIENCE I	3
MA 172	CALCULUS B	4
EH 102	COLLEGE WRITING II	3
ARS 123	2D DESIGN COLOR THEORY	3
Social and Behavioral Science		3
Term Semester Hours:		16

Year 2

Fall		
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 214	INTRO DISCRETE STRUCTURE	3
MA 201	CALCULUS C	4
ARS 230	GRAPHIC DESIGN: INTRODUCTION	3
History		3
Term Semester Hours:		16

Spring

CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
CS 309	COMPUTER ORG SWTCHNG THRY	3
MA 244	INTRO TO LINEAR ALGEBRA	3
History		3
Literature		3
Term Semester Hours:		15

Year 3

Fall		
CS 307	OBJECT ORIENT/PROG C++	3
CS 370	INTRO COMPUTER NETWORKS	3
MA 385	INTRO TO PROBABILITY STATIST	3
PHL 102	INTRO TO ETHICS	3
or PHL 150	or TECH, SCIENCE & HUMAN VALUES	
Lab science **		4
Term Semester Hours:		16

Spring

CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
CS 413 & 413L	INTRO DIGITAL COMP ARCHITECTUR and LABORATORY	3
ARS 332	GRAPHIC DESIGN: WEB DESIGN	3
Lab science **		4
Term Semester Hours:		13

Year 4**Fall**

CS 453	CLIENT/SERVER ARCHITECTURES ^{FA}	3
CS 485	COMPUTER SOFTWARE SECURITY	3
or CS 487	or DATABASE SYSTEMS	
Computer Science Elective (CS 300+ or 300+ course)		3
EH 301	TECHNICAL WRITING	3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		15
Spring		
CS 424	PRINCIPLES PROGRAMMING LANG	3
CS 490	INTRO TO OPERATING SYSTEMS	3
CS 499	SR PROJ:TEAM SOFTWARE DESIGN	3
Social and Behavioral Science		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

** Lab science sequence: Choose from AES 103/103L & AES 104/104L, BYS 119/121 & BYS 120/122, CH 121/125 & CH 123/126, or PH 111/114 & PH 112/115.

Computer Science Minor

Requirements for a Computer Science minor. Useful for students with a major in a technical field.

Code	Title	Semester Hours
CS 121	COMPUTER SCIENCE I	3
CS 214	INTRO DISCRETE STRUCTURE	3
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
CS 300+ level elective		3
CS 309 is recommended if considering a MS in Computer Science		
CS 400+ level elective		3
CS 413 and CS 490 are recommended if considering a MS in Computer Science		
Total Semester Hours		21

Additional courses required for a CS minor are: MA 171 Calculus A, MA 172 Calculus B, and MA 244 Intro to Linear Algebra.

Computer Languages and Systems Minor

Requirements for a Computer Languages and Systems minor. This minor is suitable for non-technical majors and minimal mathematics background.

Code	Title	Semester Hours
CS 102	INTRO TO C PROGRAMMING	3
CS 121	COMPUTER SCIENCE I	3
CS 221	COMP SCI II: DATA STRUCTURES	3
CS 321	INTRO OBJECT-ORIENTED PROG JAV	3
CS 300+ elective course		3
CS 300+ elective course		3

Choose CS courses at the 300 level not listed in required courses above, For Ex: CS 307, CS 347, CS 371, CS 390

CS 400+ elective course	3
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Choose CS courses at the 400 level not listed in required courses above, For Ex: CS 424, CS 454, CS 465, CS 487

Total Semester Hours	21
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MA 113, Precalculus Trigonometry or higher math is required. MA 171, Calculus A is strongly recommended. The combination of MA 120 Math Professional Applications and CS 217 Analytic Tech Gaming may be substituted for Calculus A.

Entertainment Computing Minor

Requirements for an Entertainment Computing minor:

Code	Title	Semester Hours
Computer Science requirements:		18
CS 121	COMPUTER SCIENCE I	
CS 143	INTRO TECH MULTIMEDIA & GAMING	
CS 221	COMP SCI II: DATA STRUCTURES	
CS 330	ARTFCL INTEL & GAME DEV	
or CS 347	INTRO VIDEO GAME DESGN & PROGM	
CS 445	INTRO COMPUTER GRAPHICS	
CS 443	INTRO TO MULTIMEDIA SYSTEMS	
or CS 445	INTRO COMPUTER GRAPHICS	
or CS 447	GAME ENGINES & LEVEL DEVELPMNT	
Dramatic Media Elements courses, choose one:		3
ARS 230	GRAPHIC DESIGN: INTRODUCTION	
ARS 250	PHOTOGRAPHY: INTRODUCTION	
ARS 321	ANIMATION: ORGANIC MODELING	
ARS 322	ANIMATION: 3D ANIMATION	
ARS 324	ANIMATION: TECHNICAL ARTS	
ARS 350	PHOTO: DIGITAL I	
ARS 355	PHOTO: DOCUMENTARY I	
ARS 334	GRAPH DES: WEB USER EXPER I	
ARS 393	MULTIMEDIA I	
MU 106	INTRO TO MUSIC TECHNOLOGY	
MU 306	MUSIC TECHNOLOGY IV	
TH 225	ELEMENTS OF THEATRE PRODUCTION	
CM 340	SPEC TOPICS IN COMM ARTS	
EH 410	FICTION WRITING	
Math requirement, choose one:		3
MA 244	INTRO TO LINEAR ALGEBRA	
or CS 217	ANALYTIC TECH GAMING	
Total Semester Hours		24

Additional courses: MA 120 or (MA 171 + 172) may needed as prerequisites to the required math courses.

Data Science Certificate

The Certificate in Data Science requires 12 undergraduate semester hours of coursework.

Code	Title	Semester Hours
Required Courses:		9
CS 317	INTRO DESIGN/ANALYSIS OF ALG (Required Courses (9 hours):)	
CS 430	SURVEY ARTIFICIAL INTELLIGENCE	

CS 488	INTRO TO BIG DATA COMPUTING
Elective: choose one	
CS 443	INTRO TO MULTIMEDIA SYSTEMS
CS 445	INTRO COMPUTER GRAPHICS
CS 454	INTRO TO CLOUD COMPUTING
CS 481	MODELING & SIMULATION I
CS 482	MODELING & SIMULATION II
CS 487	DATABASE SYSTEMS

3

Students must also complete the following courses, as they are prerequisites to the above courses.

Code	Title	Semester Hours
CS 121 or CPE 211	COMPUTER SCIENCE I INTRO COMPUTER PROG FOR ENGR	
CS 214	INTRO DISCRETE STRUCTURE	
CS 221 or CPE 212	COMP SCI II: DATA STRUCTURES FUNDAMENTALS SOFTWARE ENGRG	
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 244	INTRO TO LINEAR ALGEBRA (If CS 454 is chosen:)	
If CS 454 is chosen:		
CS 307 or CS 321	OBJECT ORIENT/PROG C++ INTRO OBJECT-ORIENTED PROG JAV	
CS 370 or CPE 348	INTRO COMPUTER NETWORKS INTRO TO COMPUTER NETWORKS	
If CS 481 or CS 482 is chosen:		
MA 385 or ISE 390	INTRO TO PROBABILITY & STATIST PROB & ENGR STATISTICS I	

Individualized Studies, BS

A Bachelor of Science in Individualized Studies allows a student to create a specialized degree program appropriate for his or her individual educational and career goals that does not otherwise fit into the currently structured degree programs.

Program Objective

The primary objective of the program is to encourage students to think deeply about their career goals and make it possible for students to tailor their education in order to achieve those goals. A second objective is to ensure graduates of the program acquire a solid understanding of an interdisciplinary area of science and mathematics. The third objective is to allow students to stay abreast of changes in the employment marketplace for science and mathematics graduates.

Learning Outcomes

Graduates with Individualized Bachelor of Science degrees will demonstrate:

- Knowledge in an existing core major offered by the College of Science
- Ability to write in a scholarly manner
- Capability to work collaboratively to achieve academic and career goals

Students may not pursue the Bachelor of Science in Individualized Studies degree as a second major, second degree, or second baccalaureate.

Although not required, a student may choose to pursue one minor within this degree, however there can be no overlap between courses in the minor and the 36 credit hours courses required for the major.

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher

- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
All Charger Foundation requirements will be completed per the UAH Charger Foundation guidelines.		38-42

Area V: Pre-Professional

Code	Title	Semester Hours
Major Requirements		36+

Courses in this area may also be used to fulfill Charger Foundations requirements.

FYE 101S CHARGER SUCCESS - SCIENCE

36 or more credit hours from College of Science courses.

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor. No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Total Degree Hours	120
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Mathematical Sciences

258A Shelby Center for Science

Telephone: 256.824.6470

Email: mathchair@uah.edu

Chair: Dr. Toka Diagana, Professor (<https://www.uah.edu/science/departments/math/faculty-staff/toka-diagana/>)

The Mathematical Sciences department offers the following undergraduate degree:

- Mathematical Sciences, BS (p. 678)

Program Objectives

Our objective is to provide excellent instruction and resources for the mathematics education through our courses and degree programs. Through our bachelor's, master's and doctoral degree programs, our goal is to help produce the new generations of well-educated mathematicians that are critical for the progress of mankind. Our second objective is to promote and communicate the importance of mathematics in society and to help maintain standards of excellence in mathematics through collaboration with other departments. Our third objective is to have graduates prepared for careers in government, industry, teaching at a secondary school level, or for graduate study in mathematics.

Learning Outcomes

Graduates in Mathematics will:

- Demonstrate critical thinking skills to construct clear, valid and succinct proofs
- Effectively apply mathematics to solve problems in applied fields
- Exhibit quantitative reasoning and data analysis
- Mathematical Sciences, BS (p. 678)

- Mathematics (p. 684)

MA 105 - NATURE OF MATHEMATICS

Semester Hours: 3

The course explores mathematical ideas that historically led to the development of major branches of mathematics. Conceptual understanding and real-world problem solving will be emphasized. Topics may include world of numbers, infinity, chance, foundations of statistics, and mathematical aesthetics. MA 105 cannot be used to fulfill prerequisite requirements for any mathematics course.

MA 107 - ALGEBRA WITH APPLICATIONS

Semester Hours: 3

Algebra review, functions and graphs, linear models, exponential logarithmic functions, mathematics of finance, sets and probability. Prerequisites: Level 1 placement for MA 107 and Level 0 placement for MA 107L. No credit given to students who have received credit for another MA course.

MA 107S - ALGEBRA W/APPLICATIONS S-SECT

Semester Hours: 3

This course offers all of the Algebra with Applications curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: math placement level 0.

MA 110 - FINITE MATHEMATICS

Semester Hours: 3

Algebra review, elementary functions, matrices, logic, sets, counting, and an introduction to probability and statistics. MA 110 is an AGSC core course. Prerequisites: Level 1 placement for MA 110 and Level 0 placement for MA 110L.

MA 110S - FINITE MATHEMATICS S-SECTION

Semester Hours: 3

This course offers all of the Finite Mathematics curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: Math placement level 0.

MA 112 - PRECALCULUS ALGEBRA

Semester Hours: 3

Real number systems, exponents, radicals, factoring, absolute value, inequalities, function notation, functions, inverse functions, graphing techniques, polynomial and rational functions, operations with complex numbers, conic sections, and theory of equations. Prerequisites: Level 1 placement for MA 112 and Level 0 placement for MA 112L.

MA 112S - PRECALCULUS ALGEBRA S-SECTION

Semester Hours: 3

This course offers all of the Pre-Calculus Algebra curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: math placement level 0.

MA 113 - PRECALCULUS TRIGONOMETRY

Semester Hours: 3

Exponential and logarithmic functions, trigonometric functions of angles and real numbers, graphing trigonometric functions, inverse trigonometric functions, solving trigonometric equations, verifying identities, laws of sines and cosines, vectors, trigonometric form of complex numbers, DeMoivre's theorem, summation notation, arithmetic and geometric sequences and series. Prerequisites: Level 2 placement or MA 112 with a grade of C or better. No credit given to students who have completed a MA course numbered above MA 113. MA 113 is an AGSC core course.

MA 115 - PRECALCULUS ALGEBRA & TRIG

Semester Hours: 4

The algebra of functions, including polynomial, rational, exponential, and logarithmic functions; systems of equations and inequalities; trigonometric and inverse trigonometric functions; trigonometric identities and equations; a brief introduction to DeMoivre's Theorem, vectors, polar coordinates, and the binomial theorem. This course is intended for students who plan to take at least MA 171 (Calculus A) but who do not need the full two-semester sequence in precalculus (MA 112, 113). MA 115 is an AGSC core course.

MA 120 - MATH PROFESSIONAL APPLICATIONS

Semester Hours: 3

Limits, continuity, differentiation, applications of the derivative, integration, the fundamental theorem of calculus, applications of the integral. Prerequisites: MA 107, MA 107S, MA 112, or MA 112S with a grade of C or better, or Level 2 placement. No credit given to students who have already received credit for a calculus course. MA 120 is an AGSC core course.

MA 171 - CALCULUS A

Semester Hours: 4

Limits, derivatives, applications of the derivative, definite and indefinite integrals, exponential and logarithmic functions, and inverse functions. Prerequisites: MA 113 or MA 115 with a grade of C or better, or Level 3 placement.

MA 171R - CALCULUS A RECITATION

Semester Hours: 0

Extension of MA 171. Review of previous math skills needed for success. Homework discussed; examination preparation, review of homework and examination tutoring and individual consultation.

MA 171S - CALCULUS A S-SECTION

Semester Hours: 4

This course offers all of the Calculus A curriculum with the addition of trigonometry review. The course is 4 credit hours but meets five days per week. The S-section of Calculus A is intended for students with math placement level 2 but who are willing to put in extra time and effort to study trigonometry along with all of the requirements for MA 171. Prerequisite: MA 113 or math placement level 2.

MA 172 - CALCULUS B

Semester Hours: 4

Techniques of integration, applications of the integral, polar coordinates, sequences, series, and conic sections. Prerequisites: MA 171 with a grade of C or better.

MA 181 - INTRODUCTION TO STATISTICS

Semester Hours: 3

This course is designed for non-science majors. The course is designed to provide an introduction to qualitative and quantitative statistics for research methods. The course also utilizes lab activities to instill in students working knowledge of Excel and other software statistics programs.

MA 201 - CALCULUS C

Semester Hours: 4

Vectors, vector-valued functions, partial derivatives, multiple integrals, vector fields, line and surface integrals. Prerequisites: MA 172 with a grade of C or better.

MA 230 - MATH FOR ELEMENTARY TEACHERS

Semester Hours: 3

The course emphasizes the use of logical thinking in mathematics and the development of students' understandings of algorithm design. Directed at providing the elementary education student the mathematical background necessary for an understanding of the mathematical principles that are introduced to children in the elementary grades. Emphasis on sets, logic, an understanding of the number systems (integers, fractions, decimals, percents) and number theory. Prerequisites: Two MA courses at the 100 level or above, each with a grade of C or better. Open only to students majoring in elementary education.

MA 231 - MATH FOR ELEM SCH TCHERS II

Semester Hours: 3

Rational numbers, real numbers, algebra, statistics, probability, geometric shapes, measurement, and geometry (using triangle congruence and similarity, coordinates, and transformations). Prerequisites: MA 230 with a grade of C or better.

MA 238 - APPL DIFFERENTIAL EQUATIONS

Semester Hours: 3

This course provides an elementary introduction to the techniques and necessary theory for solving the basic differential equations usually encountered by beginning science and engineering students. General topics include analytical and graphical methods for solving and analyzing first order differential equations; Euler's numerical method; the basic theory of higher-order, linear differential equations, with major emphasis on equations with constant coefficients; variation of parameters; the Laplace transform as a tool for solving differential equations. MA 238 is an AGSC core course. Prerequisites: MA 172 & MA 201 with concurrency.

MA 244 - INTRO TO LINEAR ALGEBRA

Semester Hours: 3

Systems of linear equations, matrices, matrix operations, determinants, vector spaces, bases, dimension of a vector space, inner product, Gram-Schmidt process, linear transformations, change of basis, similar matrices, eigenvalues and eigenvectors, diagonalization, symmetric matrices, and applications. Prerequisites: MA 120 or MA 172.

MA 281 - ELEMENTS OF STATISTICAL ANALYSIS

Semester Hours: 3

Descriptive statistics, fundamentals of probability theory, fundamentals of statistical inference, including estimation and hypothesis testing, and use of a typical statistical package such as MINITAB. Prerequisites: MA 113, or MA 115, or Level 2 Placement.

MA 299 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for inquisitive and well prepared sophomore-level undergraduate students. No credit allowed toward major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

MA 301 - INTRO ELEMENTARY NUMBER THEORY

Semester Hours: 3

Fundamental properties of integers, divisibility, linear Diophantine equations, congruency, Euler function, Chinese Remainder Theorem, Fermat Theorems, Wilson Theorem, and applications to Cryptography. Prerequisite: MA 244.

MA 330 - FOUNDATIONS OF MATH

Semester Hours: 3

Symbolic logic and methods of proof, set theory, combinations and permutations, equivalence relations and functions, mathematical induction and recurrence relations, cardinality (finite, countably infinite, and uncountable sets), and decimal representation of the rational and real numbers. Prerequisites: MA 172 and MA 244.

MA 385 - INTRO TO PROBABILITY & STATISTICS

Semester Hours: 3

This course is a calculus-based introduction to probability with special emphasis on the interplay between probability and statistics. Topics include descriptive statistics; probability spaces; discrete distributions (including the binomial, geometric, hypergeometric, and Poisson); continuous distributions (including the uniform, exponential, and normal); joint distributions; mean, variance, and general expected value; independence and correlation; the law of large numbers; and the central limit theorem. Prerequisites: MA 201 with grade of C- or better.

MA 399 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for inquisitive and well prepared junior-level undergraduate students. No credit allowed toward a major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

MA 415 - INTRO NUMERICAL METHODS

Semester Hours: 3

Derivation and analysis of approximate methods for the solution of nonlinear equations, interpolation and integration of functions, and techniques for the solution of systems of linear equations and for approximating solutions of elementary differential equations. Emphasis is placed on obtaining an intuitive understanding of both the problem at hand and the numerical method used to solve it. Prerequisites: MA 201, MA 244, and CS 121.

MA 420 - INTERM DIFFERENTIAL EQUATIONS

Semester Hours: 3

This is a second course in differential equations. Course topics include series solutions for second order differential equations and the method of Frobenius; eigenvalue and eigenvector methods for solving systems of linear first order equations; the qualitative theory of nonlinear equations; boundary value problems and the Sturm-Liouville theory. Prerequisites: MA 201, MA 244 and MA 238.

MA 433 - INTRODUCTION TO GEOMETRY

Semester Hours: 3

Axiomatic development of geometry, introduction to non-Euclidean geometries with emphasis in elliptic and hyperbolic geometries, selected topics in Euclidean geometry. Prerequisites: MA 172 and Either MA 201 or MA 244.

MA 442 - ALGEBRAIC STRUCTURES W/APPLICATIONS

Semester Hours: 3

Mappings, binary operations, equivalence relations, groups and subgroups, Lagrange's theorem, homomorphisms and isomorphisms, normal subgroups and quotient groups, rings, fields, ordered integral domains, fields of quotients, error correcting codes, linear codes, and decoding. Prerequisites: MA 244 and either MA 330 or 385.

MA 450 - COMBINATORIAL ENUMERATION

Semester Hours: 3

Counting, pigeonhole principle, permutations and combinations, generating functions, principle of inclusion and exclusion, Polya's theory of counting. Prerequisite: MA 385 or MA 442 (with concurrency).

MA 452 - INTRO TO REAL ANALYSIS

Semester Hours: 3

Sequences, limits, continuity, differentiation of functions of one real variable, Riemann integration, uniform convergence, sequences and series of functions, power series, and Taylor series. Prerequisites: MA 330.

MA 453 - INTRO TO COMPLEX ANALYSIS

Semester Hours: 3

Complex algebra, analytic functions, Cauchy-Riemann equations, exponential, trigonometric, and logarithmic functions, integration, Cauchy integral theorem, Morera's theorem, Liouville's theorem, maximum modulus theorem, residue theory, Taylor and Laurent series, and applications. Prerequisites: MA 201 and one MA course at 300 level or above.

MA 456 - METHODS OF PARTIAL DIFF EQUA

Semester Hours: 3

Survey of theory and methods for solving elementary partial differential equations. Topics include first-order equations and the method of characteristics, second-order equations, reduction to canonical form, the wave equation, the heat equation, Laplace's equation, separation of variables, and Fourier series. Prerequisites: MA 238 and MA 244.

MA 458 - APPLIED LINEAR ALGEBRA

Semester Hours: 3

Fundamental concepts of linear algebra are developed with emphasis on real and complex vector spaces, linear transformations, and matrices. Systems of equations, inverses of matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, normal matrices, canonical forms of matrices, applications of systems of linear differential equations, and use of computer software such as MATLAB. Prerequisites: MA 238 and MA 244.

MA 460 - INTRO FOURIER ANALYSIS

Semester Hours: 3

Brief development of trigonometric and exponential Fourier series, derivation of the classical Fourier transform from series, classical properties of Fourier transforms, transforms of functions, convolution, elementary development of the delta function, transforms of periodic functions, use of transforms to solve systems, introduction to the discrete transform and/or multidimensional transforms, as time permits. Prerequisites: MA 238 and MA 244.

MA 465 - INTRO TO MATH MODELING

Semester Hours: 3

Applying mathematics by formulating, analyzing, and criticizing mathematical models of various phenomena. Examples will be chosen from the physical, biological, and social sciences. Emphasizes development and use of simple mathematical models by having student study general modeling principles and case studies (some open-ended) drawn from various sources. Prerequisites: MA 201, MA 238, and MA 244.

MA 487 - INTRO TO MATH STATISTICS

Semester Hours: 3

This is an introductory, calculus-based course in mathematical statistics. Topics include a review of basic probability, including probability spaces, independence, distributions and expected value; the fundamental theorems of probability, including the law of large numbers and the central limit theorem; estimation, including point estimation and interval estimates for means, variances, and proportions; hypothesis testing, including tests for means, variance, and goodness of fit; an introduction to correlation and regression; theory of inference, including sufficiency and power. Prerequisites: MA 201 and either MA 385 or ISE 390.

MA 490 - SEL TOP UNDERGRAD MATH

Semester Hours: 1-3

Requested undergraduate topics. Approval of instructor required.

MA 499 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for superior undergraduate students. No credit is allowed toward a major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

Mathematical Sciences, BS

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).

- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH	

or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE
Area III: Mathematics and Sciences	
Mathematics	
MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS
MA 110	FINITE MATHEMATICS
MA 112	PRECALCULUS ALGEBRA
MA 113	PRECALCULUS TRIGONOMETRY
MA 115	PRECALCULUS ALGEBRA & TRIG
MA 120	MATH PROFESSIONAL APPLICATIONS
MA 171	CALCULUS A
MA 181	INTRODUCTION TO STATISTICS
Natural Sciences (Lab)	
AST 100	SURVEY OF ASTRONOMY
AST 106	EXPLORING THE COSMOS I
AST 107	EXPLORING THE COSMOS II
BYS 109	FUNDAMENTALS OF BIOLOGY
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS

11-12

3-4

8

PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* 12

History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Mathematical Sciences Majors		22
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Communications:		3
CM 113	Intro to Rhetorical Communication	
Computer Programming:		6
CS 100 or CS 102 or CS 103 or CS 104	INTRO COMPUTERS & PROGRAM INTRO TO C PROGRAMMING INTRO PROGRAMMING USING JAVA INTRO TO CS USING PYTHON	
CS 121	COMPUTER SCIENCE I	
Physics Sequence:		8
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
Additional Lab Science: choose one		4
AES 103 & 103L	ENVIRONMENTAL EARTH SCIENCE and LABORATORY	

AES 104 & 104L	WEATHER & CLIMATE CHANGE and LABORATORY
AST 106 & 106L	EXPLORING THE COSMOS I and ASTRONOMY LABORATORY
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Major Requirements

Code	Title	Semester Hours
Mathematics Core: **		33
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 238	APPL DIFFERENTIAL EQUATIONS	
MA 244	INTRO TO LINEAR ALGEBRA	
MA 330	FOUNDATIONS OF MATH	
MA 385	INTRO TO PROBABILITY & STATIST	
MA 442	ALGEBRAIC STRUCTURES W/APPLIC	
MA 452	INTRO TO REAL ANALYSIS	
MA 465	INTRO TO MATH MODELING	

Mathematical Sciences Elective Requirements: 9

Choose three 300-level or higher MA courses to reach a minimum of 9 credit hours

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math Placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 (<https://catalog.uah.edu/search/?P=MA%20112>) and/or MA 113 (<https://catalog.uah.edu/search/?P=MA%20113>)) Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CS 104	INTRO TO CS USING PYTHON	3
or CS 102	or INTRO TO C PROGRAMMING	
MA 171	CALCULUS A	4
EH 101	COLLEGE WRITING I	3
Lab Science		4
Term Semester Hours:		15

Spring

CS 121	COMPUTER SCIENCE I	3
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
General Elective		1
Term Semester Hours:		15

Year 2

Fall		
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Fine Art		3
History		3
Term Semester Hours:		14

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
History		3
Social and Behavioral Science		3
General Elective		3
Term Semester Hours:		15

Year 3

Fall		
MA 330	FOUNDATIONS OF MATH	3
MA 385	INTRO TO PROBABILITY STATIST	3
CM 113	Intro to Rhetorical Communication	3
Literature		3
General Elective		3
Term Semester Hours:		15

Spring

MA 442	ALGEBRAIC STRUCTURES W/APPLIC	3
MA 465	INTRO TO MATH MODELING ^{SP}	3
Humanities, 2nd Fine art or 2nd Literature		3
General Elective (300+ or 400+ course)		3
General Elective		3
General Elective		1
Term Semester Hours:		16

Year 4**Fall**

MA 452	INTRO TO REAL ANALYSIS	3
Mathematics Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Social and Behavioral Science		3
Term Semester Hours:		15
Spring		
Mathematics Elective (300+ or 400+ course)		3
Mathematics Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered on in Fall semesters.

SP Course is historically offered on in Spring semesters.

Mathematical Sciences Minor

A minor in Mathematical Sciences consists of:

Code	Title	Semester Hours
MA 171	CALCULUS A	4
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
Select two MA or ST 300+ or 400+ level courses.		6
Total Semester Hours		21

Physics and Astronomy

Room 201C Optics Building

Telephone: 256.824.2482

Email: physics@uah.edu

Chair: Dr. James Miller (<https://www.uah.edu/science/departments/physics/faculty-staff/dr-james-a-miller/>)

The Physics and Astronomy department offers the following undergraduate degrees:

- Physics, BS (p. 689)
- Physics, BS - Applied and Theoretical Physics Concentration (p. 694)
- Physics, BS - Astronomy and Astrophysics Concentration (p. 699)
- Physics, BS - Optics Concentration (p. 705)

Program Objectives

Our primary objective is to educate and train the next generation of physicists, perform cutting-edge and internationally-recognized research, and support the education of students in allied areas such as engineering, chemistry, atmospheric science, and the biological sciences. Our second

objective is to prepare physics majors for employment in industrial research or for further graduate studies in physics or related fields, including astrophysics, optics, biophysics, engineering, or medicine.

Learning Outcomes

Physics students and majors will:

- Demonstrate an understanding of the basic principles and modern tools (viz., numerical methods) of physics
- Engage in service-based learning and public outreach related to physics and science
- Have a rigorous research experience prior to graduation
- Physics, BS (p. 689)
- Physics, BS - Applied and Theoretical Physics Concentration (p. 694)
- Physics, BS - Optics Concentration (p. 705)
- Physics, BS - Astronomy and Astrophysics Concentration (p. 699)
- Physics (p. 710)
- Optics (p. 711)
- Astronomy and Astrophysics (p. 711)

AST 100 - SURVEY OF ASTRONOMY

Semester Hours: 4

One semester survey of astronomy from visible phenomena in the sky to the latest astronomical discoveries. Topics include properties of solar system bodies, origin of the solar system, life cycles of stars and galaxies, exoplanets, cosmology, and life in the universe. Includes laboratory. May not be taken in combination with AST 106 or AST 107.

AST 100L - SURVEY OF ASTRONOMY LAB

Semester Hours: 0

Laboratory instruction in support of material covered in AST 100.

AST 106 - EXPLORING THE COSMOS I

Semester Hours: 4

Introduces astronomy emphasizing quantitative aspects of physical phenomena in the universe. Topics include motions of celestial bodies, development of astronomy, gravity and motion, light and telescopes, properties of gases and radiation, earth and moon, eclipses, and survey of the solar system. Laboratory included.

AST 106L - ASTRONOMY LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AST 106.

AST 107 - EXPLORING THE COSMOS II

Semester Hours: 4

Continuation of AST 106. The sun, stars and stellar evolution, white dwarfs, neutron stars, black holes, binary stars, the Milky Way galaxy, galaxies, quasars and other active galaxies, cosmology, life in the universe. Laboratory included. Offered Spring. Prerequisite: AST 106.

AST 107L - GEN ASTRONOMY II LAB

Semester Hours: 0

Laboratory instruction in support of material covered in AST 107.

AST 210 - INTRO TO ASTROBIOLOGY

Semester Hours: 3

Studies the origin and search for life in the universe, including topics in astronomy, physics, biology, chemistry, and atmospheric science. Introduces research in astrobiology; known requirements for life, the origin and evolution of life of Earth, and the search for extraterrestrial life. Prerequisites: MA 171 and either PH 111, CH 121, or BYS 119.

AST 371 - INTRO TO ASTROPHYSICS

Semester Hours: 3

Gravitation: two-body problem, binary stars. Radiation theory. Spectral classification, Hertzsprung-Russell diagram, and introduction to stellar structure and evolution. Large-scale structure, and the evolution of the universe. Offered Spring. Prerequisites: PH 111 or PH 114, and MA 201.

AST 471 - ASTROPHYSICS

Semester Hours: 3

Structure and physical processes of stars from the interior to the atmosphere: energy production and transfer, atmospheric properties, and observed spectral features. Models for stellar structure. Star formation and evolution, including the effects of a companion. Offered Fall. Prerequisites: AST 371 and PH 351.

PH 100 - CONCEPTUAL PHYSICS

Semester Hours: 4

Classical and modern physics survey course. Approach physical laws conceptually and intuitively, with minimal mathematics. Motion, gravitation, energy, electricity and magnetism, quantum mechanics, physics of everyday phenomena, philosophical and historical implications. Offered Spring.

PH 100L - CONCEPTUAL PHYSICS LAB

Semester Hours: 0

PH 101 - GENERAL PHYSICS I

Semester Hours: 4

Introductory non-calculus based course using algebra and trigonometry. The basic laws of physics and their application to specific problems. Newtonian mechanics, energy, conservation laws and thermodynamics. Laboratory included. PH 101 and 102 satisfy the laboratory science requirement. Offered Fall Corequisite: PH 101L.

PH 101L - GENERAL PHYSICS I LAB

Semester Hours: 0

Laboratory for PH 101 Corequisite: PH 101.

PH 102 - GENERAL PHYSICS II

Semester Hours: 4

Continuation of PH 101. Electrostatics, currents, magnetic phenomena, relativity, waves, quantum nature of matter. Laboratory included. Offered Spring. Prerequisite: PH 101. Corequisite: PH 102L.

PH 102L - GENERAL PHYSICS LAB II

Semester Hours: 0

Laboratory for PH 102 Corequisite: PH 102.

PH 110 - FRONTIERS IN SCIENCE

Semester Hours: 3

Introduces frontiers and problems of modern physical science. Physicists present the role of physics in diverse careers and physics fields. Introduction to physics applications and future employment opportunities motivates students to master skills required in undergraduate studies. Offered Fall. Freshmen physics majors (<30 credit hours), physics minors, and physics major transfers. All others by permission of chair.

PH 111 - GEN PHYSICS W/CALCULUS I

Semester Hours: 3

For science and engineering students. Basic laws of physics and their application to specific problems: vectors, Newtonian mechanics, energy, conservation laws, simple harmonic motion, statics, fluids. Offered all terms. Prerequisite: MA 171 Corequisite: PH 114.

PH 111R - RECITATION

Semester Hours: 0

PH 112 - GEN PHYSICS W/CALC II

Semester Hours: 3

Continuation of PH 111. Heat and thermodynamics, basic electricity, electric and magnetic fields. Offered all terms. Prerequisite: MA 172, PH 111, PH 114. Corequisite: PH 115.

PH 112R - RECITATION

Semester Hours: 0

PH 113 - GEN PHYSICS W/CALC III

Semester Hours: 3

Continuation of PH 111 and 112. Wave motion, optics, relativity, quantum effects, atomic and nuclear structure, and elementary particles. Offered all terms. Prerequisite: MA 201 (or higher), PH 112, and PH 115. Corequisite: PH 116.

PH 113R - RECITATION

Semester Hours: 0

PH 114 - GENERAL PHYSICS LAB I

Semester Hour: 1

Laboratory instruction in support of material covered in PH 111. Offered all terms. Corequisite: PH 111.

PH 115 - GENERAL PHYSICS LAB II

Semester Hour: 1

Laboratory instruction in support of material covered in PH 112. Offered all terms. Corequisite: PH 112.

PH 116 - GENERAL PHYSICS LAB III

Semester Hour: 1

Laboratory instruction in support of material covered in PH 113. Offered all terms. Corequisite: PH 113.

PH 251 - SPECIAL RELATIVITY

Semester Hour: 1

Einstein's theory of special relativity. Invariance, geometry of Minkowski spacetime, non-Euclidean geometry, Principle of Relativity, clock synchronization, Lorentz transformations, counter-intuitive effects measured in relative motion, casualty and the speed of light, relativistic dynamics.

Prerequisite: PH 112 and MA 172. Prerequisite with concurrency: PH 113.

PH 301 - INTERMEDIATE MECHANICS

Semester Hours: 3

Reviews Newtonian mechanics, natural and driven oscillations, variational calculus and Lagrange's equations, application to central force motion, rigid body rotation and coupled oscillators. Offered Spring. Prerequisite: PH 111 and either PH 305 or MA 238.

PH 305 - MATH METHODS IN PHYSICS

Semester Hours: 3

Applied analytical techniques to solve problems in physics. Complex analysis, Fourier series, linear algebra, differential equations and vector calculus. Applications to mechanics, electricity and magnetism, optics, and thermodynamics. Offered Spring. Prerequisite: PH 112.

PH 306 - APPLIED PHYSICS

Semester Hours: 3

Computational and numerical techniques for problem solving. Applications to classical mechanics, electrodynamics, quantum mechanics, optics, and astrophysics. Offered Fall. Prerequisite: PH 305, (CS 102 or CPE 112 or CS 121) and (MA 238 or MA 244 or MA 324).

PH 310 - INTERMEDIATE LAB I

Semester Hours: 2

Experiments in classical physics. Introduction to statistical methods. Offered Fall. Prerequisites: PH 113 or 116.

PH 311 - INTERMEDIATE LAB II

Semester Hours: 2

Experiments in modern physics. Offered Spring. Prerequisite: PH 251 and PH 310.

PH 337 - ELECTRONICS

Semester Hours: 4

Introductory course for all science students. Basic AC and DC circuits, operational amplifier circuits, transistor circuits, power supplies, digital logic and their use in laboratory instruments. Laboratory included. Offered Fall, odd years. Prerequisite: PH 112.

PH 351 - INTRODUCTION TO MODERN PHYSICS

Semester Hours: 3

Kinetic theory, Blackbody radiation, Quantum physics: wave packets, the uncertainty principle, Schrodinger's equation and solutions for simple systems, application to atomic, nuclear, and solid-state physics. Offered Fall. Prerequisite: PH 113, and either MA 238 or 244. Prerequisite with concurrency: PH 251.

PH 416 - SENIOR LABORATORY

Semester Hours: 2

Advanced experimental techniques in various sub-fields of physics. Offered Fall, Spring. Prerequisite: PH 311.

PH 420 - SENIOR THESIS

Semester Hours: 3

Research performed under direction of a faculty member. Final research report required. Offered all terms.

PH 421 - THERMAL & STATISTICAL PHYSICS

Semester Hours: 3

States of model system, entropy and temperature, Boltzmann distribution, thermal radiation and Planck distribution, chemical potential and Gibbs distribution, ideal gas, Fermi and Bose gases, heat and work, semiconductor statistics, kinetic theory. Offered Spring, even years. Prerequisite: PH 351. Prerequisite with concurrency: PH 301.

PH 431 - INTERM ELECTRIC & MAGNETISM I

Semester Hours: 3

Electrostatics: electric fields, electric potential, Poisson's equation. Electric fields in matter. Magnetostatics: currents, magnetic fields. Magnetic fields in matter. Prerequisite: PH 305 and MA 201. Prerequisite with concurrency: MA 238.

PH 432 - INTERM ELECTRIC & MAGNETISM II

Semester Hours: 3

Continuation of PH 431. Maxwell's equations for time-varying fields, Electromagnetic waves, AC circuits, Radiation, and Relativistic electrodynamics. Offered Spring, odd years. Prerequisite: PH 431.

PH 451 - INTRO QUANTUM MECHANICS I

Semester Hours: 3

Waves and particles: deBroglie waves, wave-packets, and the uncertainty principle. Postulates of quantum mechanics. Schrodinger's equation: simple systems in one, two and three dimensions, the hydrogen atom. Angular momentum and spin. Offered Fall. Prerequisite: PH 305, PH 351, and (MA 244 or MA 238).

PH 452 - INTRO QUANTUM MECHANICS II

Semester Hours: 3

Multiparticle systems, Atomic structure, Approximation methods, Scattering, Applications to nuclear, atomic, and molecular systems. Offered Spring. Prerequisite: PH 451.

PH 453 - INTRO TO PARTICLE PHYSICS

Semester Hours: 3

Surveys elementary particle physics, Standard Model of quarks, leptons, and gauge bosons. Lorentz transformations, four-vectors and relativistic kinematics, angular momentum and spin. Lifetimes, cross-sections, and Feynman rules. Quantum electro and chromo-dynamics, Dirac equation, renormalization. Prerequisite with concurrency: PH 451.

PH 474 - INTRO TO GENERAL RELATIVITY

Semester Hours: 3

Introduces general relativity and gravitational physics as inferred from the behavior of particles and light rays for a selection of spacetimes. Major properties of black holes, wormholes, gravitational waves. Physics First approach, and introduces new math as required for discussion of physics. Prerequisite: PH 251 and PH 301.

PH 480 - SELECTED TOPICS

Semester Hours: 1-3

Offered upon demand. Topics include physics, optics, astrophysics, and space physics. Offered all terms. Prerequisite: PH 113 and MA 201.

PH 489 - SELECTED TOPICS

Semester Hours: 1-3

Offered upon demand. Topics include physics, optics, astrophysics, astronomy, computational physics, and space physics. Offered all terms. Prerequisites: PH 113 or 116 and MA 201.

PH 499 - PHYSICS PRACTICUM

Semester Hours: 3

"Capstone" course designed to provide real-world research experience for graduating seniors. Students work individually with faculty members on projects. Requires oral presentation and final research report. Offered all terms. Required courses on the POS must be taken prior to, or concurrently with, this course.

Physics, BS

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, [see here](#) (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC	

or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB
PH 100	CONCEPTUAL PHYSICS
PH 101	GENERAL PHYSICS I
PH 102	GENERAL PHYSICS II
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* **12**

History **3-6**

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences **6-9**

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Physics & Astronomy Majors		30
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Computer Programming: choose one		3
CS 100 or CS 102 or CS 103 or CS 104	INTRO COMPUTERS & PROGRAM INTRO TO C PROGRAMMING INTRO PROGRAMMING USING JAVA INTRO TO CS USING PYTHON	
Chemistry Sequence:		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
Mathematics: **		18

MA 171	CALCULUS A
MA 172	CALCULUS B
MA 201	CALCULUS C
MA 238	APPL DIFFERENTIAL EQUATIONS
MA 244	INTRO TO LINEAR ALGEBRA

Major Requirements

Code	Title	Semester Hours
Physics Core:		28
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
PH 251	SPECIAL RELATIVITY	
PH 301	INTERMEDIATE MECHANICS	
PH 305	MATH METHODS IN PHYSICS	
PH 351	INTRODUCTION TO MODERN PHYSICS	
PH 499	PHYSICS PRACTICUM	
Physics Elective Requirements:		8
Choose three PH/OPT/AST courses at the 300-level or higher not listed in the courses above to reach a minimum of 8 credit hours.		

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1		
Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
PH 110	FRONTIERS IN SCIENCE ^{FA}	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		

CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15
Year 2		
Fall		
MA 201	CALCULUS C	4
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
History		3
Term Semester Hours:		14
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY ^{SP}	1
History		3
Fine art		3
General Elective		2
Term Semester Hours:		16
Year 3		
Fall		
PH 351	INTRODUCTION TO MODERN PHYSICS ^{FA}	3
MA 244	INTRO TO LINEAR ALGEBRA	3
Literature		3
Social and Behavioral Science		3
General Elective		3
Term Semester Hours:		15
Spring		
PH 301	INTERMEDIATE MECHANICS ^{SP}	3
PH 305	MATH METHODS IN PHYSICS ^{SP}	3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Social and Behavioral Science		3
Term Semester Hours:		15
Year 4		
Fall		
Physics Elective (300+ or 400+ course)		3
Physics Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Non-Literature Humanity		3

General Elective		3
Term Semester Hours:		15
Spring		
PH 499	PHYSICS PRACTICUM	3
Physics Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Humanities, 2nd Fine art or 2nd Literature		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Physics, BS - Applied and Theoretical Physics Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	

EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S	INTRO FOREIGN LANG I: SPANISH	
or WLC 101A	INTRO FOREIGN LANG I: ARABIC	
or WLC 101F	INTRO FOREIGN LANG I:FRENCH	
or WLC 101G	INTRO FOREIGN LANG I:GERMAN	
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE	
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S	INTRO FOREIGN LANG II:SPANISH	
or WLC 102A	INTRO FOREIGN LANG II: ARABIC	
or WLC 102F	INTRO FOREIGN LANG II:FRENCH	
or WLC 102G	INTRO FOREIGN LANG II:GERMAN	
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE	
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S	INTERM FOREIGN LANG:SPANISH	
or WLC 201A	INTERM FOREIGN LANG I: ARABIC	
or WLC 201F	INTERM FOREIGN LANG:FRENCH	
or WLC 201G	INTERM FOREIGN LANG:GERMAN	
or WLC 201J	INTERM FOREIGN LANG: JAPANESE	
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	
or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	

MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 103	INTRO TO CRIMINOLOGY	

Area V: Pre-Professional

Code	Title	Semester Hours
For Physics & Astronomy Majors (APH)		30
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Computer Programming: choose one		3
CS 100	INTRO COMPUTERS & PROGRAM	
or CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
Chemistry Sequence:		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 238	APPL DIFFERENTIAL EQUATIONS	
MA 244	INTRO TO LINEAR ALGEBRA	

Major Requirements

Code	Title	Semester Hours
Physics core:		28
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
PH 251	SPECIAL RELATIVITY	
PH 301	INTERMEDIATE MECHANICS	
PH 305	MATH METHODS IN PHYSICS	
PH 351	INTRODUCTION TO MODERN PHYSICS	
PH 499	PHYSICS PRACTICUM	
Applied and Theoretical Concentration Requirements:		19
PH 310	INTERMEDIATE LAB I	
PH 311	INTERMEDIATE LAB II	
PH 421	THERMAL & STATISTICAL PHYSICS	
PH 431	INTERM ELECTRICI & MAGNETISM I	
PH 432	INTERM ELECTRIC & MAGNETISM II	
PH 451	INTRO QUANTUM MECHANICS I	
PH 452	INTRO QUANTUM MECHANICS II	

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.

No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1		
Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
PH 110	FRONTIERS IN SCIENCE ^{FA}	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15
Year 2		
Fall		
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3
Social and Behavioral Science		3
General Elective		2
Term Semester Hours:		16
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY ^{SP}	1
Social and Behavioral Science		3

Non-Literature Humanity		3
General Elective		1
Term Semester Hours:		15
Year 3		
Fall		
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 306	APPLIED PHYSICS ^{FA}	3
PH 310	INTERMEDIATE LAB I ^{FA}	2
PH 351	INTRODUCTION TO MODERN PHYSICS ^{FA}	3
Literature		3
Term Semester Hours:		14
Spring		
PH 301	INTERMEDIATE MECHANICS ^{SP}	3
PH 305	MATH METHODS IN PHYSICS ^{SP}	3
PH 311	INTERMEDIATE LAB II ^{SP}	2
PH 421	THERMAL STATISTICAL PHYSICS ^{SP}	3
History		3
General Elective		1
Term Semester Hours:		15
Year 4		
Fall		
PH 431	INTERM ELECTRICI MAGNETISM I ^{FA}	3
PH 451	INTRO QUANTUM MECHANICS I ^{FA}	3
History		3
Humanities, 2nd Fine art or 2nd Literature		3
General Elective (300+ or 400+ course)		3
Term Semester Hours:		15
Spring		
PH 432	INTERM ELECTRIC MAGNETISM II ^{SP}	3
PH 452	INTRO QUANTUM MECHANICS II ^{SP}	3
PH 499	PHYSICS PRACTICUM	3
Fine Art		3
General Elective		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Physics, BS - Astronomy & Astrophysics Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 209	HONORS SEM READINGS LIT/CUL I	
EH 210	HONORS SEM READINGS LIT/CUL 2	
EH 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
Humanities and Fine Arts		3-6
CM 113	Intro to Rhetorical Communication	
WLC 101S or WLC 101A or WLC 101F or WLC 101G or WLC 101J or WLC 101R	INTRO FOREIGN LANG I: SPANISH INTRO FOREIGN LANG I: ARABIC INTRO FOREIGN LANG I:FRENCH INTRO FOREIGN LANG I:GERMAN INTRO FOREIGN LANG I:JAPANESE INTRO FOREIGN LANG I:RUSSIAN	
WLC 102S or WLC 102A or WLC 102F or WLC 102G or WLC 102J or WLC 102R	INTRO FOREIGN LANG II:SPANISH INTRO FOREIGN LANG II: ARABIC INTRO FOREIGN LANG II:FRENCH INTRO FOREIGN LANG II:GERMAN INTRO FOREIGN LANG II:JAPANESE INTRO FOREIGN LANG II:RUSSIAN	
WLC 201S or WLC 201A or WLC 201F or WLC 201G or WLC 201J or WLC 201R	INTERM FOREIGN LANG:SPANISH INTERM FOREIGN LANG I: ARABIC INTERM FOREIGN LANG:FRENCH INTERM FOREIGN LANG:GERMAN INTERM FOREIGN LANG: JAPANESE INTERM FOREIGN LANG:RUSSIAN	
WLC 202S	INTERM FOREIGN LANG II:SPANISH	

or WLC 202A	INTERM FOREIGN LANG II: ARABIC	
or WLC 202F	INTERM FOREIGN LANG II:FRENCH	
or WLC 202G	INTERM FOREIGN LANG II:GERMAN	
or WLC 202J	INTERM FORGN LANG II:JAPANESE	
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN	
WLC 204	INTERNATIONAL CINEMA	
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
WGS 200	INTRO WOMENS/GENDER/SEXLTY STU	
AMS 229	ANCIENT & MEDIEVAL WORLDS	
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Area III: Mathematics and Sciences		11-12
Mathematics		3-4
MA 105	NATURE OF MATHEMATICS	
MA 107	ALGEBRA WITH APPLICATIONS	
MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III

Area IV: History and Social and Behavioral Sciences* 12
History 3-6

HY 103	WORLD HISTORY TO 1500
HY 104	WORLD HISTORY SINCE 1500
HY 221	UNITED STATES TO 1877
HY 222	UNITED STATES SINCE 1877

Social and Behavioral Sciences 6-9

AES 105	WORLD REGIONAL GEOGRAPHY
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY
ECN 142	PRINC OF MACROECONOMICS
ECN 143	PRINC OF MICROECONOMICS
GS 200	GLOBAL SYSTEMS AND CULTURES
PSC 101	INTRO TO AMERICAN GOVERNMENT
PSC 102	INTRO TO COMPARATIVE POLITICS
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS
PY 101	GENERAL PSYCHOLOGY I
PY 201	LIFE-SPAN DEVELOPMENT
SOC 100	INTRO TO SOCIOLOGY
SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
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For Physics & Astronomy Majors (ASP) 30

Courses in this area may also fulfill Charger Foundations requirements

First Year Experience: 1

FYE 101S	CHARGER SUCCESS - SCIENCE
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Computer Programming: choose one 3

CS 100	INTRO COMPUTERS & PROGRAM
or CS 102	INTRO TO C PROGRAMMING
or CS 103	INTRO PROGRAMMING USING JAVA
or CS 104	INTRO TO CS USING PYTHON

Chemistry Sequence: 8

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II

Mathematics: ** 18

MA 171	CALCULUS A
MA 172	CALCULUS B
MA 201	CALCULUS C
MA 238	APPL DIFFERENTIAL EQUATIONS
MA 244	INTRO TO LINEAR ALGEBRA

Major Requirements

Code	Title	Semester Hours
Physics Core:		28
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
PH 251	SPECIAL RELATIVITY	
PH 301	INTERMEDIATE MECHANICS	
PH 305	MATH METHODS IN PHYSICS	
PH 351	INTRODUCTION TO MODERN PHYSICS	
PH 499	PHYSICS PRACTICUM	
Astronomy and Astrophysics Concentration Requirements:		14
AST 106 & 106L	EXPLORING THE COSMOS I and ASTRONOMY LABORATORY	
AST 107 & 107L	EXPLORING THE COSMOS II and GEN ASTRONOMY II LAB	
AST 371	INTRO TO ASTROPHYSICS	
AST 471	ASTROPHYSICS	
Astronomy and Astrophysics Concentration Elective Requirements:		3
PH/OPT/AST 300+ level or higher course		

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

- * Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)
- ** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
AST 106 & 106L	EXPLORING THE COSMOS I and ASTRONOMY LABORATORY	4
MA 171	CALCULUS A	4
PH 110	FRONTIERS IN SCIENCE ^{FA}	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15

Spring

AST 107 & 107L	EXPLORING THE COSMOS II and GEN ASTRONOMY II LAB	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2**Fall**

MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Literature		3
Term Semester Hours:		14

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY ^{SP}	1
History		3
Social and Behavioral Science		3
Term Semester Hours:		14

Year 3**Fall**

CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
PH 351	INTRODUCTION TO MODERN PHYSICS ^{FA}	3
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3
Non-Literature Humanity		3
History		3
Term Semester Hours:		16

Spring

AST 371	INTRO TO ASTROPHYSICS ^{SP}	3
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
PH 301	INTERMEDIATE MECHANICS ^{SP}	3
PH 305	MATH METHODS IN PHYSICS ^{SP}	3
Fine Art		3
Term Semester Hours:		16

Year 4**Fall**

AST 471	ASTROPHYSICS ^{FA}	3
Astronomy and Astrophysics Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3

Social and Behavioral Science		3
Term Semester Hours:		15
Spring		
PH 499	PHYSICS PRACTICUM	3
Astronomy and Astrophysics		3
Elective (400+ course)		
Humanities, 2nd Fine art or 2nd Literature		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Physics, BS - Optics Concentration

- All College of Science degrees require at least 120 credit hours.
- 36 of those 120 credit hours must be taken at 300 level or higher.
- 12 credit hours of 300 level and above must be taken in the major or 6 credit hours in the major and 6 credit hours in the minor (if chosen).
- 12 of the last 18 credit hours must be taken at UAH, with an overall 25% of coursework taken at UAH.
- No more than 60 credit hours from a two-year college can be applied toward a UAH degree.
- A C- or better is required for all College of Science prerequisite courses, unless otherwise noted.

For UAH degree requirements and graduation application instructions, see here (p. 879).

Charger Foundations

Code	Title	Semester Hours
Area I: Freshman Composition		3-6
EH 101 or EH 101S	COLLEGE WRITING I COLLEGE WRITING I W/STUDIO	
EH 102	COLLEGE WRITING II	
EH 103	ACCELERATED COLLEGE WRITING	
EH 105	HONORS ENGLISH SEMINAR	
Area II: Humanities and Fine Arts*		12
Fine Arts		3
ARH 100	ARH SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
TH 123	INTRO TO FILM STUDIES	
MU 100	INTRO TO MUSIC LITERATURE	
Literature		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	

EH 209	HONORS SEM READINGS LIT/CUL I
EH 210	HONORS SEM READINGS LIT/CUL 2
EH 241	LITERATURE WITHOUT BORDERS
EH 242	MYTHOLOGY
EH 243	PROTEST LITERATURE
EH 244	HEROES &/OR MONSTERS
EH 245	LOVE &/OR ROMANCE
EH 246	SPECULATIVE REALITIES

Humanities and Fine Arts	3-6
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CM 113	Intro to Rhetorical Communication
WLC 101S	INTRO FOREIGN LANG I: SPANISH
or WLC 101A	INTRO FOREIGN LANG I: ARABIC
or WLC 101F	INTRO FOREIGN LANG I:FRENCH
or WLC 101G	INTRO FOREIGN LANG I:GERMAN
or WLC 101J	INTRO FOREIGN LANG I:JAPANESE
or WLC 101R	INTRO FOREIGN LANG I:RUSSIAN
WLC 102S	INTRO FOREIGN LANG II:SPANISH
or WLC 102A	INTRO FOREIGN LANG II: ARABIC
or WLC 102F	INTRO FOREIGN LANG II:FRENCH
or WLC 102G	INTRO FOREIGN LANG II:GERMAN
or WLC 102J	INTRO FOREIGN LANG II:JAPANESE
or WLC 102R	INTRO FOREIGN LANG II:RUSSIAN
WLC 201S	INTERM FOREIGN LANG:SPANISH
or WLC 201A	INTERM FOREIGN LANG I: ARABIC
or WLC 201F	INTERM FOREIGN LANG:FRENCH
or WLC 201G	INTERM FOREIGN LANG:GERMAN
or WLC 201J	INTERM FOREIGN LANG: JAPANESE
or WLC 201R	INTERM FOREIGN LANG:RUSSIAN
WLC 202S	INTERM FOREIGN LANG II:SPANISH
or WLC 202A	INTERM FOREIGN LANG II: ARABIC
or WLC 202F	INTERM FOREIGN LANG II:FRENCH
or WLC 202G	INTERM FOREIGN LANG II:GERMAN
or WLC 202J	INTERM FORGN LANG II:JAPANESE
or WLC 202R	INTERM FOREIGN LANG II:RUSSIAN
WLC 204	INTERNATIONAL CINEMA
PHL 101	INTRODUCTION TO PHILOSOPHY
PHL 102	INTRO TO ETHICS
PHL 103	INTRODUCTION TO LOGIC
PHL 150	TECH, SCIENCE & HUMAN VALUES
WGS 200	INTRO WOMENS/GENDER/SEXLTU STU
AMS 229	ANCIENT & MEDIEVAL WORLDS
ARH 100	ARH SUR: ANCIENT-MEDIEVAL
ARH 101	ARH SUR: RENAISSANCE-MODERN
ARH 103	ARH SUR: WORLD ART
ARS 160	DRAWING: FOUNDATIONS
TH 122	THEATRE APPRECIATION
TH 123	INTRO TO FILM STUDIES
MU 100	INTRO TO MUSIC LITERATURE

Area III: Mathematics and Sciences	11-12
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Mathematics	3-4
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MA 105	NATURE OF MATHEMATICS
MA 107	ALGEBRA WITH APPLICATIONS

MA 110	FINITE MATHEMATICS	
MA 112	PRECALCULUS ALGEBRA	
MA 113	PRECALCULUS TRIGONOMETRY	
MA 115	PRECALCULUS ALGEBRA & TRIG	
MA 120	MATH PROFESSIONAL APPLICATIONS	
MA 171	CALCULUS A	
MA 181	INTRODUCTION TO STATISTICS	
Natural Sciences (Lab)		8
AST 100	SURVEY OF ASTRONOMY	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
BYS 109	FUNDAMENTALS OF BIOLOGY	
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	
BYS 120 & BYS 122	ORGANISMAL BIOLOGY and ORGANISMAL BIOLOGY LAB	
BYS 215	HUMAN ANATOMY & PHYSIOLOGY I	
CH 101 & CH 105	INTRO TO CHEMISTRY and INTRO CHEMISTRY LAB	
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	
CH 151 & CH 105	GENERAL, ORGANIC, BIOCHEMISTRY and INTRO CHEMISTRY LAB	
PH 100	CONCEPTUAL PHYSICS	
PH 101	GENERAL PHYSICS I	
PH 102	GENERAL PHYSICS II	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
Area IV: History and Social and Behavioral Sciences*		12
History		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Sciences		6-9
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
PSC 260	INTRODUCTION TO INTERNATIONAL RELATIONS	
PY 101	GENERAL PSYCHOLOGY I	
PY 201	LIFE-SPAN DEVELOPMENT	
SOC 100	INTRO TO SOCIOLOGY	

SOC 102	ANALYSIS OF SOCIAL PROBLEMS
SOC 103	INTRO TO CRIMINOLOGY

Area V: Pre-Professional

Code	Title	Semester Hours
For Physics & Astronomy Majors (OPY)		30
Courses in this area may also fulfill Charger Foundations requirements		
First Year Experience:		1
FYE 101S	CHARGER SUCCESS - SCIENCE	
Computer Programming: choose one		3
CS 100	INTRO COMPUTERS & PROGRAM	
or CS 102	INTRO TO C PROGRAMMING	
or CS 103	INTRO PROGRAMMING USING JAVA	
or CS 104	INTRO TO CS USING PYTHON	
Chemistry Sequence:		8
CH 121	GENERAL CHEMISTRY I	
& CH 125	and GENERAL CHEMISTRY LAB I	
CH 123	GENERAL CHEMISTRY II	
& CH 126	and GENERAL CHEMISTRY LAB II	
Mathematics: **		18
MA 171	CALCULUS A	
MA 172	CALCULUS B	
MA 201	CALCULUS C	
MA 238	APPL DIFFERENTIAL EQUATIONS	
MA 244	INTRO TO LINEAR ALGEBRA	

Major Requirements

Code	Title	Semester Hours
Physics Core:		28
PH 110	FRONTIERS IN SCIENCE	
PH 111	GEN PHYSICS W/CALCULUS I	
& PH 114	and GENERAL PHYSICS LAB I	
PH 112	GEN PHYSICS W/CALC II	
& PH 115	and GENERAL PHYSICS LAB II	
PH 113	GEN PHYSICS W/CALC III	
& PH 116	and GENERAL PHYSICS LAB III	
PH 251	SPECIAL RELATIVITY	
PH 301	INTERMEDIATE MECHANICS	
PH 305	MATH METHODS IN PHYSICS	
PH 351	INTRODUCTION TO MODERN PHYSICS	
PH 499	PHYSICS PRACTICUM	
Optics Concentration Requirements:		9
OPT 341	GEOMETRICAL OPTICS	
OPT 342	PHYSICAL OPTICS	
OPT 411	OPTICS LAB	
Optics Concentration Elective Requirements:		6
PH/OPT 300+ level or higher course		
PH/OPT 400+ level or higher course		

General Electives

Code	Title	Semester Hours
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Additional courses to reach 120 credit hours. Electives can be taken from any department and do not have to be taken in your major or minor.
No more than 4 credits of 100-level HPE courses can count toward degree requirements.

Code	Title	Semester Hours
Total Degree Hours		120

* Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. Acceptable Literature sequences must include one early literature (EH 207 or EH 242 or EH 209) and one later literature (EH 208 or EH 210). Acceptable history sequences are (HY 103 + HY 104), or (HY 221 + HY 222)

** Based on Math placement, (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>) prerequisite MA 112 and/or MA 113 Mathematics courses may be required.

Note: This is only an example and variations are possible. Please work with your advisor (<https://www.uah.edu/science/academic-advising/>) as some courses are only offered one semester out of the academic year.

Year 1

Fall		Semester Hours
FYE 101S	CHARGER SUCCESS - SCIENCE ^{FA}	1
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	4
MA 171	CALCULUS A	4
PH 110	FRONTIERS IN SCIENCE ^{FA}	3
EH 101	COLLEGE WRITING I	3
Term Semester Hours:		15
Spring		
CH 123 & CH 126	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LAB II	4
MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
EH 102	COLLEGE WRITING II	3
Term Semester Hours:		15

Year 2

Fall		
CS 104 or CS 102	INTRO TO CS USING PYTHON or INTRO TO C PROGRAMMING	3
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
Social and Behavioral Science		3
General Elective		1
Term Semester Hours:		15
Spring		
MA 238	APPL DIFFERENTIAL EQUATIONS	3
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	4
PH 251	SPECIAL RELATIVITY ^{SP}	1
Literature		3

Social and Behavioral Science		3
Term Semester Hours:		14
Year 3		
Fall		
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 351	INTRODUCTION TO MODERN PHYSICS ^{FA}	3
Fine art		3
History		3
Non-Literature Humanity		3
Term Semester Hours:		15
Spring		
PH 301	INTERMEDIATE MECHANICS ^{SP}	3
PH 305	MATH METHODS IN PHYSICS ^{SP}	3
Humanities, 2nd Fine art or 2nd Literature		3
History		3
General Elective		3
Term Semester Hours:		15
Year 4		
Fall		
OPT 341	GEOMETRICAL OPTICS ^{FA}	3
Optics Concentration Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
General Elective		4
Term Semester Hours:		16
Spring		
OPT 342	PHYSICAL OPTICS ^{SP}	3
OPT 411	OPTICS LAB ^{SP}	3
PH 499	PHYSICS PRACTICUM	3
Optics Concentration Elective (300+ or 400+ course)		3
General Elective (300+ or 400+ course)		3
Term Semester Hours:		15
Total Semester Hours:		120

FA Course is historically offered only in Fall semesters.

SP Course is historically offered only in Spring semesters.

Physics Minor

A minor in Physics consists of:

Code	Title	Semester Hours
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	

PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III
PH 300+ or 400+ course ¹	
PH 300+ or 400+ course ¹	
Total Semester Hours	21

¹ Courses PH 351 and PH 301 are encouraged to meet these requirements. PH 499 can be used as well.

Optics Minor

A minor in Optics consists of:

Code	Title	Semester Hours
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	
PH 113 & PH 116	GEN PHYSICS W/CALC III and GENERAL PHYSICS LAB III	
OPT 341	GEOMETRICAL OPTICS	
OPT 411	OPTICS LAB	
PH or OPT 300+ or 400+ course ¹		
Total Semester Hours		24

¹ PH 499 is an acceptable course for the PH 300+ or 400+ course.

Astronomy and Astrophysics Minor

A minor in Astronomy and Astrophysics consists of:

Code	Title	Semester Hours
PH 110	FRONTIERS IN SCIENCE	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
AST 106	EXPLORING THE COSMOS I	
AST 107	EXPLORING THE COSMOS II	
AST 371	INTRO TO ASTROPHYSICS	
PH/OPT/AST 300+ or 400+ course ¹		
Total Semester Hours ²¹		21

¹ PH 499 is an acceptable course for the PH 300+ or 400+ course.

Course Descriptions

- Course Descriptions (p. 711)
 - Accounting (ACC) (p. 713)
 - Ancient and Medieval Studies (AMS) (p. 715)
 - Art History (ARH) (p. 715)
 - Art Studio (ARS) (p. 717)
 - Astronomy (AST) (p. 724)

- Atmospheric and Earth Science (AES) (p. 725)
- Biological Sciences (BYS) (p. 729)
- Business (BUS) (p. 735)
- Business Legal Studies (BLS) (p. 734)
- Chemical Engineering (CHE) (p. 735)
- Chemistry (CH) (p. 737)
- Child, Family, and Community Development (CFC) (p. 735)
- Civil Engineering (CE) (p. 742)
- Communication Arts (CM) (p. 745)
- Computer Engineering (CPE) (p. 748)
- Computer Science (CS) (p. 752)
- Early Childhood Education (ECH) (p. 756)
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- Electrical Engineering (EE) (p. 763)
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- Engineering Technology (ET) (p. 773)
- English (EH) (p. 767)
- English Second Language (ESL) (p. 775)
- Film and Media Arts (FMA) (p. 777)
- Finance (FIN) (p. 775)
- First Year Experience (FYE) (p. 778)
- Global Studies (GS) (p. 779)
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- Industrial & Systems Engineering (ISE) (p. 786)
- Information Systems (IS) (p. 789)
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- Nursing (NUR) (p. 826)
- Optical Engineering (OPE) (p. 830)
- Optics (OPT) (p. 831)
- Philosophy (PHL) (p. 832)
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- Psychology (PY) (p. 841)
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- Theatre (TH) (p. 849)
- Women's, Gender, and Sexuality Studies (WGS) (p. 853)
- World Languages and Cultures (WLC) (p. 853)

Accounting (ACC)

ACC 201 - ACCOUNTING & FINANCE FOR ENTREPRENEURS

Semester Hours: 3

An introductory look at the basic principles of accounting and finance for small businesses: financial statement preparation and analysis, time value of money, sources of capital, cost of capital, job order costing, cost-volume-profit analysis and budgeting.

ACC 210 - ACCOUNTING FOR BUSINESS

Semester Hours: 4

An introduction to the role accounting information plays in business. Topics include both external and internal uses of accounting information with a particular focus on the accounting cycle, the preparation and interpretation of financial statements, and the role of accounting information in management decision-making.

ACC 211 - PRINC OF FINANCIAL ACCOUNTING

Semester Hours: 3

Introduction to basic concepts that underlie accounting information. Topics include the statement of financial position, the income statement, the accounting cycle, internal control, and ethical and behavioral issues in financial reporting. Emphasis is placed on proper use of financial statement information.

ACC 212 - MANAGEMENT ACCOUNTING

Semester Hours: 3

An introduction to the use of accounting information for internal planning and control. Topics include cost behavior, cost-volume-profit analysis, cost measurement, relevant costs for decision-making, budgeting, and performance evaluation. Prerequisite: ACC 211.

ACC 307 - ACCOUNTING INFORMATION SYS

Semester Hours: 3

A detailed review and analysis of procedures required to capture, classify, summarize and report financial information. Topics include elements of accounting systems, business documents, consideration in systems design, flowcharting, and procedures to protect property and information. Extensive use is made of the personal computer and the SAP software to illustrate the concepts covered in the course. Prerequisite: ACC 210 or ACC 212.

ACC 310 - INTERM FINANCIAL ACCT I

Semester Hours: 3

First in a two-course sequence to examine the measurement and reporting of income, cash flows, assets, liabilities, and owner's equity in financial statements. Topics include financial statements, current assets and liabilities, investments, revenue recognition, and error analysis. Prerequisite: ACC 210 or (ACC 211 or ACC 212) (with a grade of B- or better).

ACC 310L - LABORATORY

Semester Hours: 0

Intermediate Accounting I Lab provides extra opportunities for students to practice and to develop their problem-solving skills.

ACC 311 - INTERM FINANCIAL ACCT II

Semester Hours: 3

Second in a two-course sequence to examine the measurement and reporting of income, cash flows, assets, liabilities, and owner's equity in financial statements. Topics include long-term assets and liabilities, leases, income taxes, pensions, and owner's equity. Prerequisite: ACC 310.

ACC 311L - INTERM FINANCIAL ACCT II LAB

Semester Hours: 0

Intermediate Accounting II lab provides extra opportunities for students to practice and to develop their problem-solving skills.

ACC 313 - INDIVIDUAL/SMALL BUS INCOME TA

Semester Hours: 3

Determination of taxable income, business and non-business deductions, and selected aspects of tax accounting for individuals and sole proprietorships. Prerequisite: ACC 210 or ACC 212.

ACC 413 - CORPORATE & PARTNERSHIP TAXATN

Semester Hours: 3

Tax accounting for partnerships, corporations, S corporations, estates, and trusts. Tax administration and research are emphasized. Prerequisite: ACC 313.

ACC 414 - COST ACCOUNTING

Semester Hours: 3

Development and use of cost data for external reporting and internal planning and control. Topics include cost modeling, job and process costing, standard costing, activity-based costing, and budgeting. Development of relevant cost information for special purposes is also considered. Prerequisite: ACC 310 (C or better).

ACC 415 - ADV FINANCIAL ACCOUNTING

Semester Hours: 3

Analysis of financial accounting issues and alternatives concerning business combinations, intercorporate investments, international business, and partnerships. Prerequisite: ACC 311.

ACC 417 - ACC ST/LOCAL GOV & NON-PROFITS

Semester Hours: 3

Fund accounting at federal, state, and local governments, hospitals, and universities. Special accounting principles, budgeting, accounting for various funds and account groups are emphasized. Prerequisite: ACC 210 or ACC 212.

ACC 420 - STATE AND LOCAL TAXATION

Semester Hours: 3

Principles of state income tax, sales and other excise taxes, and property tax. Taxation of interstate commerce will be examined along with US constitutional restrictions on the ability of states to tax interstate commerce.

ACC 431 - PRINCIPLES OF AUDITING

Semester Hours: 3

Conceptual foundations of auditing practice. Basic auditing concepts including professional ethics, legal ability, independence, and competence. Auditing of computer-oriented systems, audit sampling, and standards of reporting. Role of the internal and independent auditor. Prerequisite: ACC 307 & ACC 310.

ACC 432 - ADVANCED AUDITING

Semester Hours: 3

Practical applications of auditing concepts and standards. An understanding of auditing principles is reinforced and expanded by exposure to problems and cases. Prerequisite: ACC 431.

ACC 433 - FORENSIC ACCOUNTING

Semester Hours: 3

Study of the nature and types of fraud. The course covers the tools and techniques used to prevent, investigate, and detect fraud. Prerequisite: ACC 431.

ACC 440 - BASIC GOV CONTRACT ACCTG

Semester Hours: 3

Basic coverage and principles of government contract accounting with an emphasis on the Federal Acquisition Regulation (FAR). Prerequisite: ACC 314 or ACC 414.

ACC 441 - ADVANCED GOV CONTRACT ACCTG

Semester Hours: 3

Advanced issues in government contract cost accounting with an emphasis on the Federal Acquisition Regulation (FAR) and Cost Accounting Standards (CAS) cost allocation guidelines. Prerequisite: ACC 440.

ACC 470 - SEMINAR/CONTEMP ACCTG ISSUES

Semester Hours: 3

Current topics in professional accounting. Prerequisite: ACC 311 and permission of instructor.

ACC 480 - PROFESSIONAL CERTIFICATION

Semester Hours: 3

Review of the four areas of the Accounting Standards and Procedures: Regulation, Business Environment and Concepts, Financial Accounting and Reporting, Auditing and Attestation. Knowledge of the concepts in each of the areas is required for professional accounting certification practice.

Prerequisite: Permission of Department Chair.

ACC 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Independent study in an area of interest to the student in the fields of accounting. Department chair permission required.

ACC 495 - INTERNSHIP IN ACCOUNTING

Semester Hours: 1-3

Active involvement in a project in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student. Subject to College's guidelines on internships. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis.

Ancient and Medieval Studies (AMS)

AMS 199 - SPECIAL TOPICS

Semester Hours: 3

This special topics course is offered in ancient languages, History, Art History, Philosophy.

AMS 229 - ANCIENT & MEDIEVAL WORLDS

Semester Hours: 3

A survey of ancient and medieval culture in the Mediterranean world with attention to the ancient cultures of the Near East, Egypt, Greece, and Rome as well as the development of medieval Christian and Muslim civilizations.

Art History (ARH)

ARH 100 - ARH SUR: ANCIENT-MEDIEVAL

Semester Hours: 3

Survey of Pre-historic to Medieval art. Course emphasizes study of cultural contexts that fostered art and introduces students to basic analytic tools and theories of art history. Very little in art is completely new. Learn about the visual traditions that shaped the culture we live in today.

ARH 101 - ARH SUR: RENAISSANCE-MODERN

Semester Hours: 3

Survey of the Major Western works of art produced since the Renaissance. Relates stylistic change to changes in historical and cultural contexts. Introduces students to basic analytic tools and theories of art history.

ARH 103 - ARH SUR: WORLD ART

Semester Hours: 3

Survey of visual culture in India, the Far East, the Americas, the Pacific, and Africa. Focuses on relationships among art, religious beliefs, politics, and cultural practices. Studying the visual traditions of other cultures fosters greater understanding as our world becomes more global. Use the analytical tools and theories of art history to foster understandings of global cultures.

ARH 120 - ARH SUR: SPECIAL TOPICS

Semester Hours: 3

Course allows for survey-style exploration of special topics in art history and related fields such as archaeology.

ARH 301 - ANCIENT GREEK ART

Semester Hours: 3

Art of ancient Greece from the Bronze Age to the death of Cleopatra. Focuses on relationships of art to philosophy, politics, religion, literature, and drama. Greek art and culture heavily influenced our education system as well as the appearance of cities from Washington, DC to Huntsville, AL.

Prerequisites: ARH 100 and ARH 101.

ARH 302 - MEDIEVAL ART

Semester Hours: 3

Examines architecture, sculpture, manuscripts, metalwork, textiles, and stained glass from the fall of Rome to the Gothic era. In addition to a chronological study of the period, engage in case studies on courtship, warfare, religion, and cultural interactions that influenced practices today.

Prerequisites: ARH 100 and ARH 101.

ARH 303 - RENAISSANCE ART

Semester Hours: 3

The Renaissance supposedly ushered in advances in arts, humanities, and sciences. This course looks at regional trends in Italy as well as the rest of Europe to see what is innovative about this era considered a high point in Western culture, rather than focusing on great masters. Prerequisites: ARH 100 and ARH 101.

ARH 304 - TWENTIETH CENTURY ART

Semester Hours: 3

Developments in European and American art from 1890 to World War II will be examined through historical, literary, philosophical, political, and social contexts and theories. This course guides the student in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 305 - ANCIENT ROMAN ART

Semester Hours: 3

Roman visual culture from the foundation of the city to its fall. Explore case studies such as the age of Augustus, Pompeii, Roman engineering, the Provinces, games and spectacle. Learn about the Roman legacy and consider its impact on modern Western Culture. Prerequisites: ARH 100 and ARH 101.

ARH 306 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

Course investigates why some cultures succeed and others fail. Examine factors that lead to collapse to address a question relevant to the contemporary world: How severe do internal stresses have to become before relatively minor climate shifts can trigger a widespread cultural collapse? Prerequisites: ARH 103 and ART major.

ARH 307 - IMPRESSIONISM & POST-IMP

Semester Hours: 3

European and American art from 1860 to 1900 examined through historical, political, social, philosophical, theoretical and literary perspective. This course guides the students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 309 - CONTEMPORARY ART & ISSUES

Semester Hours: 3

Major movements since World War II examined through historical, political, social, philosophical, and literary perspectives. Contemporary art theories will also be explored. Course guides students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisite: ARH 101.

ARH 310 - NINETEENTH CENTURY ART

Semester Hours: 3

European and American art from 1780 to 1860 examined through historical, political, social, philosophical, theoretical and literary perspectives. Course guides students in critical reading of selected art historical and interdisciplinary scholarship. Prerequisites: ARH 100 and ARH 101.

ARH 311 - PHILOSOPHY OF ART

Semester Hours: 3

What is Art? This course explores and interrogates a wide range of contrasting aesthetic theories within the Western tradition, with particular emphasis on the relation between artistic expression and philosophical frameworks. Prerequisites: ARH 100 and ARH 101. OR ARH 100 and ARH 103. OR ARH 101 and ARH 103. ART Major.

ARH 320 - SPECIAL TOPICS IN ART HY

Semester Hours: 3

Developed based on student and faculty interest, special topics courses explore content and issues not currently emphasized in the curriculum. Courses may focus on a particular issue like Women in Antiquity or a particular genre such as Modern Architecture. Prerequisites: ARH 100, ARH 101, and ARH 309.

ARH 395 - INDEPENDENT STUDY

Semester Hours: 3

Directed, independent study on a topic prearranged with instructor, normally as an outgrowth of a 300-level art history course. Weekly mentoring meetings with instructor help student develop a workable thesis, conduct research, and manage a project that results in a well-argued paper.

ARH 400 - SENIOR THESIS

Semester Hours: 3

Culminating experience for students with an Art History concentration. With the help of a faculty mentor, student will choose a topic, conduct research, and construct a well-argued paper. Student will present this research to the faculty, displaying skills valuable in most careers.

Art Studio (ARS)

ARS 123 - 2D DESIGN & COLOR THEORY

Semester Hours: 3

Introduction to the principles and elements of design and color theory. Assignments explore design concepts and an understanding of color. Course stresses the development of visual and manual skills, problem solving, critical thinking, and the tools and materials used in the making of art.

ARS 140 - 3D DESIGN

Semester Hours: 3

Course introduces students to fundamental principles pertaining to the creation of three-dimensional art and prepares them for more advanced processes. Processes include, but are not limited to, drawing for sculpture, model making, woodworking, and sewing.

ARS 160 - DRAWING: FOUNDATIONS

Semester Hours: 3

Introduction to principles, materials, and techniques of drawing. Observational drawing and exercises teach students visual skills and introduce aesthetics and artistic expression. Class covers visual and manual skills, problem solving, critical thinking, and the tools and materials artists use.

ARS 210 - GAME DESIGN: INTRODUCTION

Semester Hours: 3

This course is an introduction to the principles and processes of game design. Students will play, research, design, modify, and prototype tabletop games throughout the semester to gain a better understanding of game design. Prerequisite: ARS 160 or permission of instructor.

ARS 220 - ANIMATION: INTRODUCTION

Semester Hours: 3

Course is an introduction to the principles of 3D computer generated imaging including modeling, texturing, rigging, animating, lighting, and rendering, as well as production processes such as storyboarding, sound design, and editing that together provide a basic working knowledge of 3D CGI.

Prerequisites: ARS 160 and ARS 123 or permission of instructor.

ARS 230 - GRAPHIC DESIGN: INTRODUCTION

Semester Hours: 3

Introduction to graphic design theories, principles, and software. Instruction in the basics of graphic design through practical understanding of visual communication and logistics of advertising, conceptual thinking, and creative exploration. Course is a primer for the Macintosh platform. Prerequisites: ARS 123 and ARS 160.

ARS 240 - SCULPTURE: INTRODUCTION

Semester Hours: 3

Students will develop and explore their ideas using a variety of traditional and non-traditional tools, materials, and processes. Assemblage, subtraction, modeling, 3D modeling/printing, and casting processes will be addressed, preparing students for entrance into advanced coursework. Prerequisite: ARS 140.

ARS 250 - PHOTOGRAPHY: INTRODUCTION

Semester Hours: 3

Fundamentals and techniques of the digital camera, image capture, digital scanning, and image manipulation with Adobe Photoshop software. Basic printing and image preparation for the web and other media will also be explored. Basic Mac OS and/or Windows skills, and digital camera required. Prerequisites: ARS 123 and ARS 160.

ARS 260 - DRAWING: INTRODUCTION

Semester Hours: 3

Course further develops drawing skills through study and practice. Materials, design, and creative ideas are explored. Critical thinking and visual analysis are used in critique. Students continue to develop visual and manual skills, problem solving abilities, and the use of tools and materials.

Prerequisites: ARS 123 and ARS 160.

ARS 270 - PAINTING: INTRODUCTION

Semester Hours: 3

Students learn basic painting techniques, materials, and mediums. Problem solving assignments use two-dimensional design and color theory concepts and practices. Students are required to observe and think critically for critique and discussion. Prerequisites: ARS 123 and ARS 160.

ARS 280 - PRINTMAKING: INTRODUCTION

Semester Hours: 3

Introduction to basic areas of printmaking, including planographic, intaglio, and relief processes. Expands 2-D design concepts, color theory, and drawing skills. Develops proficiency with printmaking tools and materials as well as critical thinking and problem solving skills. Prerequisites: ARS 123 and ARS 160.

ARS 311 - GAME DESIGN: SCRIPTING & DES I

Semester Hours: 3

This course introduces students with limited programming experience to video game scripting using a visual programming language. Students will learn tools and techniques to design and script their own video games. Prerequisites: ARS 210, and one of the following: CS 102, CS 103, CS 121. Or permission of instructor.

ARS 321 - ANIMATION: ORGANIC MODELING

Semester Hours: 3

This course will focus on organic mesh design and production as well as surface and lighting properties for creating portfolio quality, real-time, and pre-rendered 3D organic models.

ARS 322 - ANIMATION: 3D ANIMATION

Semester Hours: 3

Course explores fundamental animation principles (timing/spacing, overlap, squash/stretch, anticipation, etc) along with digital animation tools (rigging, inverse kinematics, keyframing, etc) to help students gain experience and a better understanding of the role of CG animators. Prerequisite: ARS 220.

ARS 324 - ANIMATION: TECHNICAL ARTS

Semester Hours: 3

Course will concentrate on areas of production that require both technical and art skill, often called technical art. Topics include in-depth rigging, automating workflows, simulations, writing custom tools, writing shaders, etc. Students will gain experience in a sought-after production role.

Prerequisite: ARS 220.

ARS 325 - ANIMATION: HARD SURF MODELING

Semester Hours: 3

This course will focus on hard surface mesh design and production as well as material and lighting properties for creating portfolio quality, real-time, and pre-rendered 3D hard surface models. Prerequisite: ARS 220.

ARS 327 - ANIMATION; VISUAL STORY DEV

Semester Hours: 3

This course focuses on developing visual storytelling as a graphic language for storyboarding films and animations as well as creating comics and graphic novels. The principles of sequential art will be examined and applied to projects throughout the semester. This is a 2D course and is digital drawing intensive. Prerequisite with Concurrency: ARS 220.

ARS 328 - ANIMATION: CONCEPT ART

Semester Hours: 3

This class will cover the basics of concept art for the entertainment industry and related fields. Games, characters, and stories start out as ideas and concept art is how those ideas are visually developed, iterated, and refined before going into production. This course is digital drawing intensive.

Prerequisite with Concurrency: ARS 220.

ARS 329 - ANIMATION: 2D ANIMATION

Semester Hours: 3

This course focuses on creating traditional and tweened 2D animations using current digital tools and techniques. The principles of animation will be examined through a variety of exercises and applied to main projects. This course is digital drawing intensive. Prerequisite with Concurrency: ARS 220.

ARS 330 - GRAPHIC DESIGN: PRINT MEDIA I

Semester Hours: 3

Course emphasizes creative exploration in design and layout. Students will learn intermediate methods of graphic design. Focus for this course is additional study in design, creative thinking, and industry software. Prerequisite: ARS 230.

ARS 332 - GRAPHIC DESIGN: WEB DESIGN

Semester Hours: 3

Beginning course in web design using HTML and CSS to build effective and creative websites with strong user-centric design. Understanding HTML and current best web design practices is essential to web design and development. Prerequisite: ARS 230.

ARS 333 - GRAPH DES: WATERCOLOR & DIG I

Semester Hours: 3

Graphic design from an illustration and fine arts perspective. Course explores different creative directions using current software in combination with traditional watercolor media. Students will learn how to handle watercolor, develop creative concepts, and use software to support their design. Prerequisite: ARS 230.

ARS 334 - GRAPH DES: WEB USER EXPER I

Semester Hours: 3

Course places emphasis on user experience, web animation, and application for the purpose of media development. This course focuses on the understanding of user experience and user interface design through the study of how consumers interact with media. Prerequisite: ARS 230.

ARS 335 - GRAPHIC DESIGN: TYPOGRAPHY I

Semester Hours: 3

Course studies type design and the usage of basic letterforms, typographic contrast, and hierarchy of information, major type families and characteristics, the history of typography design, creativity, and grid layout. Prerequisite: ARS 230.

ARS 340 - SCULP: FABRICATION I

Semester Hours: 3

Exploration of a variety of assemblage processes including wood, metal, and fabric construction. Emphasis is placed on idea development and investigating a wide range of forms and materials. Course instruction includes welding, CNC plasma cutting, advanced wood joinery, and wood bending. Prerequisite: ARS 240.

ARS 341 - SCULP: CARVING I

Semester Hours: 3

Carving stone, wood, and other materials is investigated with emphasis placed on developing the ability to see and release forms and on the unique relationship evolving between maker and material. Instruction also includes CNC routing, wood turning, and sharpening techniques. Prerequisite: ARS 240.

ARS 342 - SCULP: CASTING I

Semester Hours: 3

Course instruction focuses on mold making processes and materials involved in casting objects using both traditional and non-traditional methods. Metal casting is the principle focus of this course with investigation surrounding how digital practices continue to affect this age-old practice. Prerequisite: ARS 240.

ARS 346 - SCULP: FIGURE MODELING I

Semester Hours: 3

Study of the human form through direct clay modeling from life, including anatomical studies, armature construction, mold making, and casting. Nude models will be used. Prerequisite: ARS 240.

ARS 347 - SPACE AND PLACE

Semester Hours: 3

Investigation of installation and environmental art practices including site-specific work, public art and interactive environments. Students will explore works that relate to the experience of place and develop the potential to use 2D, 3D, and time-based works to transform space. Prerequisite: Any 200 level ARS course.

ARS 348 - DIGITAL FABRICATION

Semester Hours: 3

Digital Fabrication focuses on the action of using digital processes to design and create physical artwork. Several digital software programs are explored along with processes for digital fabrication machines (CNC milling, CNC plasma cutting, laser-cutting, 3D printing, and digital die-cutting machines.) Prerequisites: ARS 240 or ARS 220.

ARS 350 - PHOTO: DIGITAL I

Semester Hours: 3

Digital image creation and editing techniques using postproduction software, digital printing, and image presentation. Course addresses contemporary fine art issues and an introduction to studio lighting. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 250.

ARS 352 - PHOTO: DARKROOM I

Semester Hours: 3

Black and white film and darkroom techniques explored as a means of expression. Course discusses artistic styles and the history of twentieth-century black and white photography. Students will produce a final fine art portfolio. 35mm camera required (available through department if necessary). Prerequisite: ARS 250.

ARS 353 - PHOTO: EXPER & HIST I

Semester Hours: 3

Introduction to alternative ways of working in the darkroom with an emphasis on historical photographic techniques. Experimentation with analog and digital materials are encouraged to produce a final portfolio. Students need a film camera (available through the department if necessary). Prerequisite: ARS 352.

ARS 355 - PHOTO: DOCUMENTARY I

Semester Hours: 3

Students study "truth" in the image using the documentary style of photography. Emphasis on the history of the genre and how to work in the field with attention to ethical issues. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 350.

ARS 360 - DRAWING: FIGURE

Semester Hours: 3

Drawing with an emphasis on life drawing utilizing both traditional and contemporary methods and materials. Figure drawing is the traditional cornerstone of art training, and includes anatomy, observation, and advanced technical skills. Nude models will be used. Prerequisite: ARS 260.

ARS 375 - PAINTING: TRADITIONAL I

Semester Hours: 3

Investigation of figure painting, focusing on technical and philosophical approaches to using the human form as subject matter. Nude models will be used. Students are guided in the development of artistic facility and vocabulary. Prerequisite: ARS 270.

ARS 376 - PAINTING: CONTEMPORARY I

Semester Hours: 3

Contemporary approaches toward painting are explored through technical and conceptual exercises based on contemporary painting practices. Students are guided in the development of artistic facility and personal expression. Prerequisite: ARS 270.

ARS 377 - PAINTING: MIXED MEDIA I

Semester Hours: 3

Exploration of painting with mixed and non-traditional media, including the use of assemblage and collage processes, shaped or contoured canvases, and related media. Students are guided in the development of artistic facility and a vocabulary of visual symbols for personal expression. Prerequisite: ARS 270.

ARS 381 - PRINT: ETCHING & RELIEF I

Semester Hours: 3

Etching and relief print processes are explored through woodblock, linoleum cut, aquatint and line etching. Through demonstrations, critical analysis, and making prints, students develop skills with tools, techniques and concepts associated with etching and relief printmaking Prerequisite: ARS 280.

ARS 383 - PRINT: SCREENPRINT I

Semester Hours: 3

Studio practices in screenprint methods are used to synthesize technical skills and develop sophisticated aesthetic modes of printmaking. Through demonstrations, critical analysis, and making prints, students will consider complex ways in which printmaking becomes a tool for artistic expression. Prerequisite: ARS 280.

ARS 385 - PRINT: BOOK ARTS I

Semester Hours: 3

Students develop skills and aesthetic modes of narrative work through book arts. Emphasis on gaining skills in cutting, folding, measuring, gluing, sewing, printing, and binding. Students develop form and content through the exploration of structural mock ups and personal work. Prerequisite: ARS 280.

ARS 387 - PRINT: MONOPRINT & LITHOGRAPHY I

Semester Hours: 3

Monoprint and lithography are explored through planographic print processes. Through demonstrations, critical analysis, and making prints, students develop skills with tools techniques and concepts associated with monoprint and lithography printmaking. Prerequisite: ARS 280.

ARS 390 - PORTFOLIO DEVELOPMENT I

Semester Hours: 3

This course is focused on helping students create high-quality portfolio work that demonstrates their skills and creative capabilities as artists. Multidisciplinary and discipline-specific sections are offered. Please see your advisor for details.

ARS 393 - MULTIMEDIA I

Semester Hours: 3

Study and practice of time-based and other artistic approaches that combine elements of various art forms, usually developed along strong conceptual or thematic lines. Readings, written assignments, and presentations foster an understanding of the wide varieties of contemporary art practice.

Prerequisites: ARS 123, ARS 140, ARS 160 and ARS 260.

ARS 395 - SP TOPICS IN STUDIO ART

Semester Hours: 3

Special topics on particular media or conceptual approaches to art. This course allows the student to explore new media and/or critical theoretical approaches to contemporary art. Prerequisite: Instructor Approval.

ARS 415 - ANIMATION: TEAM GAME DESN I

Semester Hours: 3

Students in this collaborative game design and development course work in teams to conceptualize and create working video games in one semester. Students will gain an understanding of industry standard tools and practices, as well as get valuable experience working in teams. Prerequisite: Choose one: ARS 321, ARS 322, ARS 324, ARS 325, ARS 329, ARS 311, CS 221.

ARS 416 - ANIMATION: TEAM GAME DESN II

Semester Hours: 3

In this advanced collaborative game design and development course, students take on leadership production roles on their game teams and help mentor junior members. Students will gain experience as team leads and learn to coordinate multidisciplinary projects. Prerequisite: ARS 415.

ARS 425 - ANIMATION: SHORT FILM I

Semester Hours: 3

In this course, students will conceptualize and fully produce 3D animated short films. The story, characters, and world will be built from the ground up, and the production pipeline will mirror common industry practices. Experience with 3D is essential, but expertise in a particular discipline is not as critical as being driven to learn and create. Prerequisites: ARS 321 or 322 or 324 or 325 or 329.

ARS 426 - ANIMATION: SHORT FILM II

Semester Hours: 3

In this advanced short film production course students will take on leadership roles within their discipline and help guide the conceptualization and production of 3D animated short films. Advanced understanding of an aspect of production and short film pipelines is expected. Prerequisite: ARS 425.

ARS 430 - GRAPHIC DESIGN: PRINT MEDIA II

Semester Hours: 3

Course emphasizes print production, special applications of print design, environmental graphics, and advertising campaigns. Focus is on mastering print media methods and creating portfolio enhancement projects. Prerequisite: ARS 330.

ARS 432 - GRAPH DES: SENIOR PROJ MGMT

Semester Hours: 3

Students develop and/or manage one or more major web projects for clients as well as a professional site for students themselves. The course covers practical application of current best web design practices including user-centric design, HTML, CSS, Content Management Systems, and current web standards. Prerequisite: ARS 332.

ARS 433 - GRAPH DES: WATERCOLOR & DIG II

Semester Hours: 3

Course extends a student's knowledge of digital and traditional watercolor media. The purpose of this course is to further explore creative techniques, develop a direction, and apply new techniques combining media. Prerequisite: ARS 333.

ARS 434 - GRAPH DES: WEB USER EXPER II

Semester Hours: 3

Course focuses on advanced methods of user experience and user interface design. With faculty mentoring, students learn how to develop complex designs using these methods in user experience for the purpose of advanced media usage. Prerequisite: ARS 334.

ARS 435 - GRAPHIC DESIGN: TYPOGRAPHY II

Semester Hours: 3

Course explores professional methods in type design and type application. Course teaches students how to develop advertising series and text design using illustrative approaches to hand lettering. Curriculum includes expressive methods in developing type for the purpose of environmental graphics. Prerequisite: ARS 335.

ARS 440 - SCULP: FABRICATION II

Semester Hours: 3

Course continues investigation of fabrication processes exploring the specific nature of each area of specialization with emphasis on integrating multiple processes into singular sculptural works. Emphasis is placed on ideation, discussion, and presentation of personal artistic interests. Prerequisite: ARS 340.

ARS 441 - SCULP: CARVING II

Semester Hours: 3

Continued exploration of subtractive processes with a focus on specific material, process, or context. Discussion of ideation, historical/contemporary contexts, and presentation specific to personal artistic interests. Prerequisite: ARS 341.

ARS 442 - SCULP: CASTING II

Semester Hours: 3

Continued exploration of mold-making, patination, casting, and foundry processes as well as investigation of contemporary methods and materials. Students develop further technical knowledge and conceptual motivation related to casting with an emphasis on individual exploration. Prerequisite: ARS 342.

ARS 447 - SCULP: SPACE AND PLACE II

Semester Hours: 3

Exploration of installation and environmental art practices with an emphasis on creating work at off-campus sites. Students will engage in rigorous ideation through site research and public presentation. Students will have the opportunity to create public artworks on campus and in the City of Huntsville. Prerequisite: ARS 347.

ARS 448 - DIGITAL FABRICATION II

Semester Hours: 3

This advanced Digital Fabrication course focuses on advanced use digital processes to design and create physical artwork. Several digital software programs are further explored along with processes of digital fabrication machines (CNC milling, CNC plasma-cutting, laser-cutting, 3D printing, and digital die-cutting machines.) Prerequisite: ARS 348.

ARS 450 - PHOTO: DIGITAL II

Semester Hours: 3

Advanced digital image creation and image presentation. Class is open to experimentation with analog materials to produce digital media. There is an emphasis on personal style to produce a cohesive final project. Students are required to provide their own digital camera with RAW settings. Prerequisite: ARS 350.

ARS 452 - PHOTO: DARKROOM II

Semester Hours: 3

Advanced class in black and white darkroom photography. Students will explore the techniques of medium and large format photography to produce a final fine art print portfolio. Access to a 120 and/or 4x5 view camera is required (available through department if necessary). Prerequisite: ARS 352.

ARS 453 - PHOTO: EXPER & HIST II

Semester Hours: 3

Advanced alternative and historical techniques in photography with an emphasis on personal style. Individual projects will be assigned to produce a cohesive portfolio. Prerequisite: ARS 353.

ARS 455 - PHOTO: DOCUMENTARY II

Semester Hours: 3

Advanced study of the documentary genre of photography throughout the history of the medium from the first portraits and travel photographs to the photojournalism and ethical issues of the modern world. Students are required to present a final portfolio of photographs. Prerequisite: ARS 355.

ARS 460 - DRAWING: CONCEPTUAL

Semester Hours: 3

Practice and theory focusing on drawing as a major medium, utilizing both traditional and contemporary methods and materials. Assignments are concept based. Nude models may be used. Prerequisite: ARS 360.

ARS 475 - PAINTING: TRADITIONAL II

Semester Hours: 3

Continued exploration of figurative painting processes with an emphasis on portfolio development and professional practices. Students are guided in the development of artistic facility and personal expression using paint as a medium. Prerequisite: ARS 375.

ARS 476 - PAINTING: CONTEMPORARY II

Semester Hours: 3

Continued exploration of contemporary painting approaches with an emphasis on portfolio development and professional practices. Students are guided in their development of artistic facility and a vocabulary of visual symbols for personal expression. Prerequisite: ARS 376.

ARS 477 - PAINTING: MIXED MEDIA II

Semester Hours: 3

Continued exploration of mixed and non-traditional media with an emphasis on portfolio development and professional practices. Students are guided in the development of artistic facility and a vocabulary of visual symbols for personal expression through the use of a variety of media. Prerequisite: ARS 377.

ARS 481 - PRINT: ETCHING & RELIEF II

Semester Hours: 3

This is an advanced course, where etching and relief are used to make an independent body of work. Students demonstrate how printmaking is a tool for conceptual exploration and expression. Through visual and written research students consider the hand-printed image within our culture. Prerequisite: ARS 381.

ARS 483 - PRINT: SCREENPRINT II

Semester Hours: 3

Studio practices in advanced screenprint methods are used to create an independent body of work. Students investigate how screenprinting is a tool for developing prints in an expanded way and explore the medium through the concerns of analog and digital possibilities. Prerequisite: ARS 383.

ARS 485 - PRINT: BOOK ARTS II

Semester Hours: 3

Students develop an advanced body of work in the book arts, by exploring structure and content. Content is developed through the student's independent investigation of text and image. Structure developed through the making of mockups. Honing technical skills in printing and binding is emphasized. Prerequisite: ARS 385.

ARS 487 - PRINT: MONOPRINT & LITHOGRAPHY II

Semester Hours: 3

Monoprint and lithography print processes are used to create an independent body of work in this advanced course. Students demonstrate how unique and multiple prints are tools for conceptual exploration and expression. Through research students consider the roll printed image within visual culture. Prerequisite: ARS 387.

ARS 490 - PORTFOLIO DEVELOPMENT II

Semester Hours: 3

This advanced portfolio development course allows students to work with and gain feedback from studio professors and students from different studio disciplines. Students will create a fully developed body of work that is aesthetically and/or conceptually linked. Prerequisite: ARS 390.

ARS 492 - ART INTERNSHIP

Semester Hours: 3

Student applies principles, theories, and skills learned in Art Studio and/or Art History courses to on-the-job experience in a professional environment. Internship host may be suggested by the student or assigned by advisor. One hundred fifty work hours required to complete 15-week internship. Prerequisite: Instructor Approval.

ARS 493 - MULTIMEDIA II

Semester Hours: 3

Continued exploration of multi-media art works with emphasis on increasing sophistication and portfolio development. Readings, written assignments, and presentations foster an understanding of the wide varieties of contemporary art practice. Prerequisite: ARS 393.

ARS 494 - PROFESSIONAL PRACTICES

Semester Hours: 3

Course is a requirement for students in the BFA program, and is open to BA students. Includes preparation for the senior exit show or design portfolio, developing written materials for careers in the visual arts, and learning how to install and manage an art exhibition. Prerequisites: ARS 123, ARS 140, ARS 160 ARS 260, plus a minimum of four 300/400-level studio courses.

ARS 495 - INDEPENDENT PROJECTS

Semester Hours: 3

Available for an advanced major when an appropriate course is not offered to facilitate progress to graduation. May be taken only one time. Prerequisite: Instructor Approval.

ARS 496 - PRINCIPLES FOR TEACHING ART

Semester Hours: 3

Focuses on methods, materials and processes suitable for comprehensive art education content implementation. The course is a hands-on methods course in which students are required to design and implement art lessons to be taught to students in educational settings. Prerequisites: ED 410 and at least four 300-level ARS courses, minimum GPA 2.75 or higher.

Astronomy (AST)

AST 100 - SURVEY OF ASTRONOMY

Semester Hours: 4

One semester survey of astronomy from visible phenomena in the sky to the latest astronomical discoveries. Topics include properties of solar system bodies, origin of the solar system, life cycles of stars and galaxies, exoplanets, cosmology, and life in the universe. Includes laboratory. May not be taken in combination with AST 106 or AST 107.

AST 100L - SURVEY OF ASTRONOMY LAB

Semester Hours: 0

Laboratory instruction in support of material covered in AST 100.

AST 106 - EXPLORING THE COSMOS I

Semester Hours: 4

Introduces astronomy emphasizing quantitative aspects of physical phenomena in the universe. Topics Include motions of celestial bodies, development of astronomy, gravity and motion, light and telescopes, properties of gases and radiation, earth and moon, eclipses, and survey of the solar system. Laboratory included.

AST 106L - ASTRONOMY LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AST 106.

AST 107 - EXPLORING THE COSMOS II

Semester Hours: 4

Continuation of AST 106. The sun, stars and stellar evolution, white dwarfs, neutron stars, black holes, binary stars, the Milky Way galaxy, galaxies, quasars and other active galaxies, cosmology, life in the universe. Laboratory included. Offered Spring. Prerequisite: AST 106.

AST 107L - GEN ASTRONOMY II LAB

Semester Hours: 0

Laboratory instruction in support of material covered in AST 107.

AST 210 - INTRO TO ASTROBIOLOGY

Semester Hours: 3

Studies the origin and search for life in the universe, including topics in astronomy, physics, biology, chemistry, and atmospheric science. Introduces research in astrobiology; known requirements for life, the origin and evolution of life of Earth, and the search for extraterrestrial life. Prerequisites: MA 171 and either PH 111, CH 121, or BYS 119.

AST 371 - INTRO TO ASTROPHYSICS

Semester Hours: 3

Gravitation: two-body problem, binary stars. Radiation theory. Spectral classification, Hertzsprung-Russell diagram, and introduction to stellar structure and evolution. Large-scale structure, and the evolution of the universe. Offered Spring. Prerequisites: PH 111 or PH 114, and MA 201.

AST 471 - ASTROPHYSICS

Semester Hours: 3

Structure and physical processes of stars from the interior to the atmosphere: energy production and transfer, atmospheric properties, and observed spectral features. Models for stellar structure. Star formation and evolution, including the effects of a companion. Offered Fall. Prerequisites: AST 371 and PH 351.

Atmospheric and Earth Science (AES)

AES 100 - INTRODUCTION TO SPACE SCIENCE

Semester Hour: 1

Covers physiology in space, computer systems, and materials in space, robotics, thermodynamics, astrophysics, and solar physics. Laboratory experiments and simulated missions. Offered in cooperation with the U.S. Space & Rocket Center. Prerequisite: Available only to high school students with U.S. citizenship enrolled in Advanced Space Academy®.

AES 101 - EXPLORING SPACE SC & ENGR

Semester Hour: 1

Exploring Space Science and Engineering courses 1-9. Each course examines an aspect of space exploration including but not limited to space science, human factors, medicine, and engineering. Each course focuses on a single aspect. No more than three of the courses in the ESS 101 group may be taken for credit. The courses are offered through distance learning.

AES 103 - ENVIRONMENTAL EARTH SCIENCE

Semester Hours: 4

Principles and foundations of Earth and environmental science with lectures and labs on concepts in Earth system science. Applied science labs use applications and real-world examples from ecosystems, geology, soil science, water, pollution, agriculture, population, natural disasters, and energy.

AES 103L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AES 103.

AES 104 - WEATHER & CLIMATE CHANGE

Semester Hours: 4

An introduction to the atmosphere and climate system, including weather systems, climate extremes, and natural/human-induced changes in the atmosphere-climate systems. Major topics discussed include greenhouse effect, solar impacts on climate, El-Nino, climate change, atmospheric and ocean circulations, cyclones, hurricanes, thunderstorms, and tornadoes.

AES 104L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in AES 104.

AES 105 - WORLD REGIONAL GEOGRAPHY

Semester Hours: 3

This course introduces the study of not only the location of places, but more importantly the physical and cultural features, economies, and population of the world's geographic regions. By exploring the interactions between people and their environment.

AES 110 - PRINCIPLES OF HUMAN GEOGRAPHY

Semester Hours: 3

This course serves as an introduction to geography as the science of location, through an emphasis on spatial patterns of human activities. The location of economic activities, location of cities as market and production centers, movement networks, and images and perceptions of landscapes form the core of the course.

AES 209 - DATA ANALYSIS TOOLS

Semester Hours: 2

Introduction to methods and techniques in data analysis for atmospheric and Earth system sciences. Using case studies and experts from multiple disciplines, students are exposed to GIS, scientific programming principles, satellite image processing, radar data and meteorological software. Course is lab-based, focused on computer software. Prerequisites: AES 103, AES 104 (minimum grade of C- required); CS 102 or CS 103 or CS 104 with concurrency.

AES 210 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

This course will investigate why some cultures succeed and others fail. From archeological and historical records of past civilizations we will examine the factors which lead to collapse in an attempt to determine the future of current societies.

AES 212 - SEVERE WEATHER ANALYSIS

Semester Hours: 4

Meteorological analysis and beginning forecasting of weather systems, severe weather, snowstorms, hurricanes, and tornadoes through the interpretation of surface, upper air, satellite, and radar weather observations. Strong emphasis placed on unique observations of severe weather from UAH radar and profiling systems.

AES 212L - LABORATORY

Semester Hours: 0

Laboratory instruction in support of material covered in ESS 212.

AES 301 - INTRO TO EARTH & ATMOSPHERIC PHYS

Semester Hours: 3

This course will provide a survey of earth and atmospheric science for undergraduate students. Topics that will be covered will focus on how the earth-atmosphere system works in an integrated fashion. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 302 - PEOPLE, PLANTS, & ENVIRONMENT

Semester Hours: 3

This course is designed to introduce students from multiple departments to the vital roles that plants have in our ecosystems through the study of basic plant and soil science. Special attention is placed on the impact plants have on our technology-based society. Sophomore standing or above.

AES 303 - CLASSICAL & PHYSICAL CAUSES CLIMATE

Semester Hours: 3

Basic atmospheric structure and physical processes, surface processes, climate history and climate change, land use and land change, microclimates, topoclimate, Ecoclimatology. Prerequisites: AES 103, AES 104, and (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 305 - HYDROLOGY

Semester Hours: 3

Introduction to hydrologic cycles and concepts of how water interacts with the environment. Covers water properties, precipitation, groundwater and runoff, currents, waves, sediment processes, and conservation strategies. Prerequisites: AES 103, AES 104, and (MA 120 or MA 171 or MA 171S), and (PH 101 or PH 111).

AES 307 - ENVIRONMENTAL ARCHEOLOGY

Semester Hours: 3

Archaeologists today need a wide range of scientific approaches in order to delineate and interpret the ecology of their sites. This approach is revolutionizing archaeology making it relevant to the modern-day world. Climate modeling, remote sensing, and GIS are investigated in this course. Prerequisite: AES 103.

AES 312 - PRINCIPLES OF ECOLOGY

Semester Hours: 3

Lecture/Lab One 3 hour lab a week. Ecological principles controlling plant and animal populations. Development of ecosystems, communities and habitats. Field trips required. Strongly recommend CH 101 or CH 121. Prerequisite: BYS 120.

AES 313 - GEOGRAPHIC INFORMATION SYSTEMS

Semester Hours: 3

Introduction to scientific spatial analysis concepts and spatial data processing with focus on ESRI ArcGIS software. Basic concepts in GIS data management and creation, with topics including raster and vector data, projections, data query, data acquisition, and cartography. Prerequisites: AES 103 and choose 1: CS 102, CS 103, or CS 104.

AES 321 - POLLUTION PROBLEMS

Semester Hours: 3

Quantitative study of environmental conditions, processes, and problem-solving techniques related to specific pollution problems in air, water, and land. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), (CH 101 or CH 121), and (PH 101 or PH 111).

AES 341 - THERMODYNAMIC METEOROLOGY

Semester Hours: 3

Introduction to atmospheric thermodynamics with an emphasis on applications in meteorology, including the equation of state, Zeroth, First and Second Laws of Thermodynamics, adiabatic processes, moist processes, static stability, stability of moist air, and severe weather applications. Prerequisites: AES 209, AES 212, AES 301 and Choose 1: CS 102, CS 103, or CS 104. Prerequisites with concurrency: MA 201, PH 112.

AES 351 - DYNAMIC METEOROLOGY

Semester Hours: 3

Dynamics and kinematics of atmospheric flow. Meteorological coordinate systems. Fundamental governing equations of atmospheric motion, circulation, and vorticity. Prerequisites: PH 111, AES 301, Choose 1: CS 102 or CS 103 or CS 104. Prerequisites with concurrency: MA 201.

AES 352 - SYNOPTIC METEOROLOGY

Semester Hours: 3

Analysis, interpretation, and forecasting synoptic-scale and mesoscale phenomena, including air masses, frontal systems, cyclones, anti-cyclones, tropical cyclones, and associated mesoscale phenomena. Emphasis is placed on the use of remote sensing data from satellites, radars, and profilers using state-of-the-art workstations. Prerequisites: AES 212, AES 341, AES 351.

AES 370 - INTRODUCTION TO REMOTE SENSING

Semester Hours: 3

This course introduces the fundamental physics of remote sensing systems and incorporates hands-on exercises of image processing, information extraction and interpretation, and basic applications of airborne and satellite data in Earth System Science and Atmospheric Science. Prerequisites: AES 103, AES 104, (MA 120 or MA 171 or MA 171S), (PH 101 or PH 111), and (CS 102 or CS 103 or CS 104).

AES 402 - SCI & SOC ASPTS NATRL DISASTER

Semester Hours: 3

Students will understand causes of major natural events and evaluate effects of disasters on populations and possible mitigation measures. GIS software will be used to show progression of events and/or their impacts using course case studies. Prerequisites: AES 103 and AES 104.

AES 407 - ENV THRTS, PUB POLY, & DEC MKG

Semester Hours: 3

Researchers, policymakers, and environmental campaigners have identified twenty-five potential future threats to the global environment. This course examines the nature and consequences of these threats and their potential impacts for the survival of the human race. Prerequisite: AES 103.

AES 408 - PYTHON FOR GIS

Semester Hours: 3

Introduction to GIS model building, Python programming, and automation of scripts for ArcGIS. Techniques in Model Builder, Python, and the methods for automation will be taught using data from numerous available data sources across the internet with heavy emphasis on the Earth Sciences. Prerequisite: AES 313.

AES 409 - SCI PROGRMNG FOR EARTH & ATMOS

Semester Hours: 3

Survey of data types and languages commonly used in the meteorological community along with practical applications to meteorology. Course is designed to prepare students for graduate work and research in atmospheric science. Prerequisite: (CS 102 or CS 103 or CS 104); AES 301; MA 172; (PH 112 and PH 115).

AES 410 - OPERATIONAL WEATHER FORECAST'G

Semester Hours: 3

Subjective and objective methods of atmospheric prognosis. Techniques for forecasting critical weather elements. Interpretation, use and systematic errors of computer-generated products, human factors with forecasting, and application of meteorological theory in an operational setting. Prerequisites: AES 341, AES 351, AES 352.

AES 414 - GEOSPATIAL APPLICATIONS

Semester Hours: 3

An introductory look at the ways in which GIS can be put to use in different fields of study, drawing examples from Demography, Sociology, Archaeology, History, and Ecology. Focus on cartography and map creation principles and public geospatial data acquisition. Prerequisite: AES 313.

AES 415 - ADVANCED TOPICS IN GIS

Semester Hours: 3

Advanced continuation of concepts applied in Geospatial Applications. Students will learn through modules of real world scientific research how to use further tools in ArcGIS including: 3D Analyst, Spatial Analyst, Network Analyst. Topics include web data dissemination, spatiotemporal analysis and some basic spatial statistics measures. Prerequisite: AES 414.

AES 420 - INTRO ATMOSP CHEM & AIR POLLU

Semester Hours: 3

This self-contained introductory course in atmospheric chemistry and air pollution is designed to provide students the basics of atmospheric chemistry and air pollution concepts. Topics include air pollutants, air-pollution meteorology, atmospheric gases and aerosols, and atmospheric processes. Prerequisites: AES 301, AES 321, PH 112, PH 115, CH 121, CH 125.

AES 441 - ATMOSP THERMODY & CLOUD PHYSIC

Semester Hours: 3

General aspects of thermodynamics and cloud physical processes occurring within the atmosphere; atmospheric statics and stability, saturation point analysis, aerosols, nucleation, and the behavior/growth of cloud particles and hydrometeors. Prerequisites: AES 341, MA 238, PH 112 and PH 115.

AES 451 - ATMOSPHERIC FLUID DYNAMICS I

Semester Hours: 3

Fluid dynamics in the atmosphere. Coriolis acceleration, scale analysis and appropriate approximations of the complete governing equations. Numerical analysis and interpretation of weather phenomena. Same as ATS 451. Prerequisites: AES 351, MA 238, PH 112 and PH 115.

AES 454 - FORECASTING MESOSCALE PROC

Semester Hours: 3

Detection and forecasting of atmospheric mesoscale phenomena including the structure and evolution of clouds, precipitation (including floods), thunderstorms, and severe weather. Includes basics of instruments used to detect mesoscale phenomena, most notably satellite and radar. Prerequisite: AES 352.

AES 461 - ATMOSPHERIC RADIATION I

Semester Hours: 3

Fundamentals of terrestrial atmospheric radiation. Topics include: basic concepts, radiative transfer equation, gaseous absorption, scattering by molecules and particles, band models, transmittance along an inhomogeneous path. Prerequisite: AES 301, MA 238, PH 112 and PH 115.

AES 471 - RADAR METEOROLOGY

Semester Hours: 3

Introduction to principles of radar meteorology, including radar operations, hardware, interpretation and analysis. Doppler, dual-polarization and dual-wavelength radar theory, methods and applications are covered. Prerequisites: AES 341, AES, 408, AES 409.

AES 472 - SATELLITE METEOROLOGY

Semester Hours: 3

The goal for this course is to provide students in undergraduate and graduate-level Earth and Atmospheric Science a background in satellite meteorology. During all components of the course there will be a heavy emphasis on practical meteorological satellite interpretation with respect to land surface and especially atmospheric features. Prerequisites: AES 212 and AES 301. Prerequisites with Concurrency: AES 408 or AES 409.

AES 490 - SPEC TOPICS EARTH & ATMOSPH SC

Semester Hours: 1-3

Special offerings to students in areas of interest not covered in the present curriculum. Prerequisite: permission of instructor.

AES 495 - DIRECTED STUDY

Semester Hours: 2-4

Supervised special study topics for undergraduates; often is offered to undergraduates who have senior standing. Individual students identify and obtain consent from a faculty mentor.

AES 497 - UNDERGRADUATE INTERNSHIP

Semester Hours: 3

Individual internships in fields directly related to atmospheric or Earth system science. Student must show acceptance into a formal internship program, and the course requires approval by department chair and consent by the internship supervisor.

AES 498 - RESEARCH & PROF DEV CAPSTONE

Semester Hour: 1

Applied concepts for professional and research development. Includes evaluation and discussion of published literature and department seminars, with focus on research synthesis and critique. Also includes development of professional and career skills focused on the Earth and Atmospheric Sciences. Junior or senior standing required.

AES 499 - UNDERGRADUATE RESEARCH

Semester Hours: 2-4

For advanced earth system science students. Individual investigations into earth systems science problems under direct supervision of a research mentor. Research is conducted and thesis-style paper is written and orally presented. Students identify and obtain consent from a faculty research mentor. Prerequisite: AES 498.

Biological Sciences (BYS)

BYS 100 - INTRO HEALTH PROFESSIONS

Semester Hour: 1

Career options for undergraduate students interested in health professions. Basics of health-care delivery systems and terminology of health care. No BYS major or minor credit. Primarily for freshman and sophomores.

BYS 109 - FUNDAMENTALS OF BIOLOGY

Semester Hours: 4

This course emphasizes an understanding of the living world through discussion of biological concepts and how they relate to social sciences and humanities. Biological concepts covered include the nature of science, cellular biology, biochemistry, heredity, evolution, biological diversity, ecology, anatomy, and physiology. Not intended for biology majors. Lab included in the lecture.

BYS 119 - PRINCIPLES OF BIOLOGY

Semester Hours: 3

Introduction to biological principles of cell structure, function, metabolism, and reproduction. Prerequisite w/ Concurrency: BYS 121.

BYS 120 - ORGANISMAL BIOLOGY

Semester Hours: 3

Discussion of biological function with special emphasis on contrasting strategies employed by organisms in meeting similar biology needs. Prerequisite w/ concurrency: BYS 122.

BYS 121 - LABORATORY

Semester Hour: 1

Laboratory exercised to introduce students to accurate measurement techniques, observation, and the development of relevant hypotheses. Several formal lab reports are required as an introduction to scientific writing. Prerequisite w/ concurrency: BYS 119.

BYS 122 - ORGANISMAL BIOLOGY LAB

Semester Hour: 1

Introduction to the basic concepts of natural selection, population biology, and the biodiversity of animals and plants. Several formal lab reports are required as further introduction to scientific writing, along with a lab practical on the biodiversity of animals and plants. Prerequisite w/ concurrency: BYS 120.

BYS 202 - HUMAN ANAT & PHYS II/CALHOUN

Semester Hours: 4

BYS 205 - CODING ALGORITHMS FOR BIOLOGY

Semester Hours: 3

Prerequisites: BYS 119, BYS 120, MA 112.

BYS 214 - INFECTION & IMMUNITY

Semester Hours: 4

Lecture/Lab. Two 2-hour labs a week. Principles of microbiology with emphasis on infectious disease of humans; epidemiological and immunological aspects. No credit for students who have credit for BYS 321 or advanced microbiology courses. Recommended for students in the College of Nursing. Prerequisites: BYS 119 and either CH 101 or CH 121 or CH 151.

BYS 214L - LABORATORY

Semester Hours: 0

BYS 215 - HUMAN ANATOMY & PHYSIOLOGY I

Semester Hours: 4

BYS 215 (I) and laboratory (one 3-hour lab per week), is designed primarily for the Nursing and Kinesiology majors. Course and laboratory material focus on the use of anatomical terminology, major tissues of the body and in-depth study of skeletal, muscular and nervous system physiology. Basic pathology is also presented to prepare students for clinicals. Laboratory material reinforces the lecture content with detailed identification of bones, joints, surface markings, and human musculature. Prerequisites: BYS 119, CH 101 and CH 105.

BYS 215L - HUMAN ANAT & PHYS I LAB

Semester Hours: 0

An introduction to anatomical terminology; basic histology of normal tissues versus common pathologies. Focus on the human skeletal and muscular systems. Students are engaged in recognition of individual bones, surface markings, and major muscles through dissection and use of muscular models.

BYS 216 - HUMAN ANATOMY & PHYSIOLOGY II

Semester Hours: 4

BYS 216 (II) and laboratory (one 3-hour lab per week) is designed as a continuum for the Nursing and Kinesiology majors. Course and laboratory material focus on the structures and organization of the central and peripheral nervous system, neurotransmitters, cardiovascular, renal, respiratory, digestive, and detailed study of the endocrine systems. Basic pathology is also presented to prepare students for clinicals. Laboratory material reinforces the lecture content with dissections of key organs, study of blood flow, identification of major blood vessels and nerves, and explanations of various diagnostic tests (EKG/ECG). Prerequisite: BYS 215.

BYS 216L - HUMAN ANAT & PHYS II LAB

Semester Hours: 0

Study of the anatomy of the nervous, cardiovascular, respiratory, renal, and digestive systems. Dissections of eye, brain, heart, lung, and kidney. Basic EKG/ECG reading and a study of factors affecting blood pressure. Enzymatic action of the digestive system; basic urinalysis determinations.

BYS 219 - GENETICS AND EVOLUTION

Semester Hours: 3

Hereditary basis of organisms; genes as the discrete units of inheritance, and genes in organisms and populations. Mendelian principles and evolutionary processes. Replication, transcription, and translation of DNA, RNA, and proteins. Prerequisite w/concurrency: BYS 221. Prerequisites: BYS 119, BYS 120 and (CH 101 or CH 121) and (MA 107 or MA 112).

BYS 221 - LABORATORY

Semester Hour: 1

Laboratory activities include experiments to further students understanding in Medelian genetics, molecular biology, and human genetic diseases.

Prerequisite w/concurrency: BYS 219.

BYS 292 - INTRO TO BIOLOGICAL RESEARCH

Semester Hours: 3

Introduction to the principles and practices of biological research. Covers experimental design, statistical analysis, critical review of journal articles, responsible conduct of research, and writing for the biological sciences. Recommended for students planning to do undergraduate research.

Prerequisites: BYS 119, MA 112, EH 101.

BYS 300 - CELL & DEVELOPMENTAL BIOLOGY

Semester Hours: 4

Lecture/Lab. One lab per week. Introduces the student to topics in cell and developmental biology. Subjects include cell structure, organelles, cytoskeleton, secretory pathway, cell division, cell cycle, cell interaction and control of differentiation. Prerequisites: BYS 219 (C- or better) and either CH 123 or 201.

BYS 300L - CELL & DEVELOPMENT BIO LAB

Semester Hours: 0

BYS 301 - ELEMENTARY BIOCHEMISTRY

Semester Hours: 3

Biochemistry and energetics of living cells, metabolism, structure and function of carbohydrates, lipids, proteins, and nucleic acid. Enzymes, coenzymes, vitamins, blood, endocrine glands, DNA synthesis, and gene expression. Same as CH 301. Prerequisites: BYS 119, BYS 120 and CH 201 or CH 331.

BYS 302 - PEOPLE, PLANTS & ENVIRONMENT

Semester Hours: 3

This course is designed to introduce students from multiple departments to the vital roles that plants have in our ecosystems through the study of basic plant and soil science. Special attention is placed on the impact that plants have on our technology-based society.

BYS 311 - INTRO MOLECULAR UNDSST BIO SYST

Semester Hours: 3

Introduction to a molecular understanding of genes, gene expression, and genetic engineering in selected prokaryotic and eukaryotic systems. Includes examples of biotechnology applications. Prerequisite: CH 331.

BYS 312 - PRINCIPLES OF ECOLOGY

Semester Hours: 4

Lecture/Lab. One lab a week. Population structure and growth, competition, predation, symbiosis, biogeochemical cycling and energy flow, disturbance and community dynamics, biodiversity and conservation. Field trips required. Prerequisite: BYS 120.

BYS 313 - ANATOMY & PHYSIOLOGY I

Semester Hours: 4

Lecture/Lab. One lab a week. Structure and function of the human body. Anatomy of the skeletal and muscular systems, physiology of membranes, cellular and epithelial transport and nervous system function. Appropriate preparation for professional schools/graduate study in biological sciences. Prerequisite: BYS 119. Prerequisites with concurrency: BYS 300, and either CH 201 or CH 331.

BYS 313L - LABORATORY

Semester Hours: 0

Laboratory activities on the basic concept of system physiology including a rat dissection. Focuses on membrane transport and histology, and include gross anatomy and a study of the muscles and bones of the human body. Capstone student research project on electromyography of muscles.

BYS 314 - ANATOMY & PHYSIOLOGY II

Semester Hours: 4

Lecture and one lab a week. Continuation of BYS 313 stressing structural and functional relationships of major organ systems, focusing on heart, brain, lungs, kidney, and the gastrointestinal tract. Appropriate for students preparing for professional schools or graduate study in biological sciences. Prerequisite: BYS 313 (C- or better).

BYS 314L - ANATOMY & PHYSIOLOGY II LAB

Semester Hours: 0

Research-intensive system-based laboratory course. Includes brain dissection, a student EEG project, heart dissection, and a cardiovascular physiology project. This is followed by a pulmonary function lab and a renal function lab where students calculate their own glomerular filtration rate.

BYS 315 - ICHTHYOLOGY

Semester Hours: 4

Classification, anatomy, physiology, and ecology of freshwater and marine fishes. Emphasizes fishes of north Alabama. Laboratory and field trips required. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 317 - VERTEBRATE ZOOLOGY

Semester Hours: 5

Lecture/Lab. Two three-hour labs a week. Morphology of vertebrate animals. Relationship of organs and systems and their phylogenetic significance. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 318 - VERTEBRATE REPRODUCTION

Semester Hours: 3

General treatment of the major concepts and controversial areas of comparative vertebrate reproduction: ecological and evolutionary aspects, development of reproductive functions and sexual behavior, seasonal breeding and other topics of current interest. Prerequisites: BYS 120 and BYS 219. Prerequisite with concurrency: BYS 300.

BYS 320 - MEDICAL TERMINOLOGY

Semester Hours: 3

The meaning, spelling, etymology and pronunciation of major medical terms related to anatomy, pathology, medical professions, procedures and pharmaceuticals; body systems, their associated diseases and disorders. Correct usage of terms and interpretation of documents containing these terms. Hybrid course with online and in-class portions. Prerequisites: BYS 300 or BYS 215 and BYS 216.

BYS 321 - GENERAL MICROBIOLOGY I

Semester Hours: 4

Structure, biochemistry, and genetics of microorganisms, control of microbial growth, and microorganisms as pathogens. Lab covers basic and diagnostic methods in microbiology, environmental factors controlling microbial growth and survival, and characteristics of medically important microorganisms. Prerequisites: BYS 120, BYS 219. Prerequisite with concurrency: BYS 300.

BYS 321L - LABORATORY

Semester Hours: 0

BYS 347 - BIOPHYSICAL CHEMISTRY I

Semester Hours: 3

First and second laws of thermodynamics. Free energy and equilibrium. Colligative properties of solutions. Ionic equilibria. Electrochemistry. Reaction kinetics. Enzyme catalysis. Adsorption and surface tension. Same as CH 347. Prerequisites: CH 332, PH 112, PH 115 and MA 172.

BYS 348 - BIOPHYSICAL CHEMISTRY II

Semester Hours: 3

Viscosity, diffusion, sedimentation, electrophoresis, determination of molecular weight by osmotic pressure. Light scattering and photochemistry. Elementary IR, UV-VIS, ESR, NMR spectroscopy. Fluorescence. Optical rotation. Same as CH 348. Prerequisites: BYS 347 or CH 347.

BYS 361 - GENERAL BIOCHEMISTRY

Semester Hours: 3

Biochemical structure and function of amino acids, proteins, carbohydrates, lipids, and nucleic acids; Enzyme catalysis and kinetics; major catabolic pathways, their integration and control mechanisms: Glycolysis, Citric Acid Cycle, Fatty Acid Oxidation and Oxidative Phosphorylation. Same as CH 361. Prerequisites: (BYS 119, BYS 120, CH 332 and CH 335) or (BYS 311, CH 332 and CH 335).

BYS 362 - GENERAL BIOCHEMISTRY LAB

Semester Hour: 1

One 3-hour lab a week. Practical experience in isolation, qualitative identification, and quantitative estimation of biomolecules. Same as CH 362.

Prerequisites: CH 335 and CH 336. Prerequisite with concurrency: CH 361.

BYS 363 - GENERAL BIOCHEMISTRY II

Semester Hours: 3

A continuation of BYS 361 to include amino acid oxidation, biosynthesis of biomolecules, integration of metabolism, DNA and RNA metabolism, protein biosynthesis, and gene structure. Same as CH 363. Prerequisites: BYS 361 (C- or better).

BYS 364 - BIOGEOGRAPHY

Semester Hours: 3

Why plants and animals live where they do. Principles governing plant and animal distribution and dispersal, using the communities of North America as prime examples. Strongly recommended: BYS 312. Prerequisites: BYS 120, BYS 219. Prerequisite with concurrency: BYS 300.

BYS 365 - GENERAL BIOCHEMISTRY LAB II

Semester Hour: 1

Experimental course illustrating the topics in BYS 363. Prerequisites: BYS 361 and BYS 362. Prerequisite with concurrency: BYS 363.

BYS 403 - ADV EXERCISE PHYSIOLOGY

Semester Hours: 4

Lecture/Lab. One lab per week. Human physiology, addressing the effects of environmental variables such as altitude, thermal stress, and terrain on the major physiological systems of the body; in-depth analysis of resistance training, aerobic and anaerobic training; integration of multiple systems. Prerequisites: BYS 401, and (BYS 301 or CH 301) or (BYS 361 or CH 361).

BYS 405 - PSYCHOPHARMACOLOGY

Semester Hours: 3

Introduction to drug classification and action with emphasis on physiological and psychological interactions.

BYS 417 - PRINCIPLES OF PLANT PHYSIOLOGY

Semester Hours: 4

The objectives in the development of this course is to provide students with an opportunity to: (1) study the principles of plant physiology (2) to gain an understanding of the complexity of plant genetics and stress response pathways (hormones) as well as (3) to appreciate how dependent we are on plants from those in our forests and environment to those in agricultural production and beyond. Laboratory experiments will provide an additional opportunity for students to take the lecture material and gain actual experience in the growth, nutritional requirements, and maintenance of a wide variety of plants through the semester via work on campus as well as in the UAH Greenhouse. Prerequisites: BYS 120 and BYS 219.

BYS 419 - MICROBIAL GENETICS

Semester Hours: 3

Transmission, expression, and evolution of genes in microorganisms. Studies of chromosomes, plasmids, transposons, bacteriophages, and other genetic elements. Prerequisites: BYS 219, BYS 300 and BYS 321.

BYS 420 - MICROBIAL BIOTECHNOLOGY

Semester Hours: 4

Microbial Biotechnology is an advanced Graduate/Undergraduate course that provides insight of how bacteria, viruses, and fungi are manipulated and used to solve human problems. This course is designed based on topics recommended by American Society of Microbiology. Prerequisites: BYS 419.

BYS 430 - IMMUNOLOGY

Semester Hours: 4

Lecture/Lab. One 3-hour lab per week. Innate, humoral, and cell-mediated immunity. Immune deficiencies and hypersensitivities. Autoimmunity, transplantation, and tumor immunology. Prerequisites: BYS 219, BYS 300 and BYS 321. Prerequisite with concurrency: CH 361.

BYS 431 - BIOLOGICAL DATA SKILLS

Semester Hours: 3

This course covers a range of computational skills needed specifically for biologists who do not have any training in computer science. The course focuses on command line tools, basic programming in Python, and various aspects of data handling including, data curation, organization, storage, querying, and archiving. The course will include a project that ties together skills that are useful for individual students.

BYS 432 - PRINC OF SIGNAL TRANSDUCTION

Semester Hours: 2

This course will introduce the broad principles of intracellular signal transduction. More detail lectures on specific intracellular signaling pathways will be given where students will learn both the basic and the most recent and cutting edge concepts of intracellular signaling. Appropriate for undergraduate and graduate studies in biological sciences, researchers new to the field and those actively working in the general area.

BYS 433 - RESEARCH SEMINAR ATTENDANCE

Semester Hour: 1

This course gives upper level biology majors a chance to gain exposure to research in biology. Students will attend seminars and learn about how research projects are planned and interpreted. Additionally they will learn how scientists present their research. Prerequisite: BYS 300.

BYS 436 - BIOLOGICAL PSYCHOLOGY

Semester Hours: 3

Functional analysis of neural and endocrine systems underlying behavior. Same as PY 436. Prerequisites: 15 hours of PY or approval of instructor, and BYS 120 or BYS 313, and 6 hours of PY.

BYS 437 - PSYCHOBIOLOGY STRESS & ILLNESS

Semester Hours: 3

Overview of psychological stress responses and their influence on health, behavior, and illness. Same as PY 437. Prerequisites: approval of instructor.

BYS 461 - HERPETOLOGY

Semester Hours: 4

Classification, diversity, anatomy function, ecology, behavior, and evolution of amphibians and reptiles. Laboratory and field trips devoted to anatomy and identification, with an emphasis on Alabama and southeastern U.S. species. Prerequisites: BYS 120 and BYS 219.

BYS 464 - EVOLUTION

Semester Hours: 3

Principles of evolution and speciation. Nature of species, selection and adaptation, divergence and cladogenesis, isolation, hybridization, and phylogeny. Prerequisites: BYS 120, 219. Prerequisites with concurrency: BYS 300.

BYS 466 - ORNITHOLOGY

Semester Hours: 4

An examination of birds, including classification, diversity, anatomy, function, ecology, behavior, and evolution. Laboratory and field trips devoted to anatomy and identification, with an emphasis on Alabama and southeastern U. S. species. Prerequisites: BYS 120, BYS 219 and BYS 312 w/ concurrency.

BYS 467 - ANIMAL BEHAVIOR

Semester Hours: 3

This course examines the role of animal behavior in survival and reproduction. It emphasizes the genetic, morphological, and physiological basis of behavior. Particular emphasis is placed on the mechanisms underlying behavior and their evolutionary significance.

BYS 490 - SENIOR CAPSTONE

Semester Hours: 2

Discussions, readings, and presentations of topical biological subjects using scientific literature. Capstone course emphasizing refinement of oral and written communication skills and critical thinking. All students will take ETS Major Field Test in Biology as part of the course grade. Prerequisites: BYS 119, 120, 219, and 300. Senior standing.

BYS 491 - SPECIAL TOPICS BIOLOGICAL SCI

Semester Hours: 1-4

Directed readings and/or written reports on topics of interest to individual students carried out under supervision of an instructor. Prerequisites: Permission of instructor required before registration.

BYS 492 - UNDERGRADUATE RESEARCH

Semester Hours: 2-4

For advanced-level biological sciences students with biological sciences GPA of 3.5 or above. Individual investigations into biological problems under direct supervision of instructor. May also be taken at the Marine Environmental Sciences Consortium, Dauphin Island, Alabama. Prerequisites: Permission of instructor required before registration.

BYS 499 - UNGRAD HONORS RES & THESIS

Semester Hours: 2-4

Individual investigations into biological problems under direct supervision of instructor. For honors students majoring in the biological sciences. Prerequisites: Approval of instructor, chair, and director of honors program; senior standing.

Business Legal Studies (BLS)

BLS 211 - LEGAL ENVIRON/BUSINESS

Semester Hours: 3

Legal environment of business including ethical, political and technological aspects of that environment.

BLS 400 - LAW, ETHICS & BUSINESS

Semester Hours: 3

An analytical review of corporate ethics addressed from a legal and business standpoint. Focus on codes of ethics, integration of integrity into corporate cultures, top management commitment to ethics, civics involvement, employer-employee relations, consumer protection, and international business.

BLS 406 - GOVERNMENT CONTRACT LAW

Semester Hours: 3

Application of the legal principles governing government contracts as developed from common law, statutes, regulations, and court decisions. Includes requests for proposals, negotiation, inspection, acceptance, delivery, warranties, modification of contracts, equitable adjustment, and disputes. Prerequisite: BLS 211 and either MGT 401 or ACC 440.

BLS 410 - BUSINESS NEGOTIATIONS

Semester Hours: 3

This course is designed to familiarize students with the theories, basic skills and ethics involved in negotiation. Through a combination of readings, lectures, videotapes, role-play exercises and discussion, students will develop an understanding of the dynamics of negotiation and the approaches available to a wide variety of business leaders engaged in the negotiation process. The course will include sessions in which students will have the opportunity to gain experience through role playing of simulations taken from actual cases. Prerequisite: BLS 211.

BLS 411 - BUSINESS LAW FOR ACCOUNTANTS

Semester Hours: 3

In-depth study of legal principles and problems encountered in practice by professional accountants. This course covers legal topics in a Uniform Commercial Code perspective. Prerequisite: BLS 211.

Business (BUS)

BUS 115 - CREATING ENTREPRENEURIAL OPTNS

Semester Hours: 3

Creating Entrepreneurial Opportunities is an experiential, project-based course designed to utilize partnerships that provide an overview of business development and processes. Taught in high schools for dual enrollment credit, in partnership with community businesses. Students visit area businesses, learn from guest speakers, participate in a class business, write business plans, and start and operate their own businesses. Dual enrolled high school students only. Not available to current UAH students.

BUS 300 - BUSINESS TRANSITIONS

Semester Hour: 1

Business Transitions is designed to assist incoming transfer students in making a fully successful transition to The University of Alabama in Huntsville, both within and beyond the classroom. The goals of this course focus on developing a sense of community, promoting engagement in the academic life of the university, and articulating to students the expectations of the university. In addition, the course will assist students in understanding and applying critical thinking skills, as well as offer support to students in clarifying their academic interests and eventual career direction.

Child, Family, and Community Development (CFC)

CFC 305 - FAMILY, SCHOOLS & COMMUNITY

Semester Hours: 3

This course highlights principles and practices of building effective collaborations with families; community agencies and schools with an emphasis on supporting families from diverse backgrounds (e.g. disability, culture/linguistic diversity; non-traditional family configurations, poverty, health problems; family dysfunction).

CFC 325 - POSITIVE YOUTH DEVELOPMENT

Semester Hours: 3

This course provides an overview of youth development principles and practices that serve as a theoretical and practical framework for building quality programs that aim to develop young people. Content includes an overview of youth development, building cultural competence and methods of empowering youth to become active community members.

CFC 335 - CRITICAL ISSUES COMMUNITY

Semester Hours: 3

This course examines adolescents coming to age within communities in the context of society. Students will examine topics of mental health, stress and anxiety, suicide and drug use, family dynamics and how they are influenced through the community, the school's role in the development of a child, and growing up in today's world. Additionally, students will develop strategic plans to create and implement policy as well as to make policy changes, as necessary.

CFC 451 - LEADERSHIP YOUTH & COMMUNITY

Semester Hours: 3

This course prepares students to assume leadership positions in youth and community development programs (e.g., early care and education programs; public, private, and nonprofit sectors) through coursework and a service learning opportunity. Principles and practices for effectively managing programs will be discussed.

Chemical Engineering (CHE)

CHE 201 - INTRO CHEMICAL ENGR PROCESS

Semester Hours: 2

Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets. Analytical methods for solving problems related to chemical process measurements, properties of single compounds, properties of mixtures, stoichiometry. Application of the principle of conservation of mass in the analysis of steady-state non-reacting chemical processes. Prerequisites with concurrency: EGR 101, CH 123 and CH 126.

CHE 244 - INTRO TO CHEM ENGRG SYSTEMS

Semester Hours: 3

Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets. Application of the principle of conservation of mass and energy in the analysis of steady-state chemical processes. Topics in physical, chemical, and thermal property estimation. Prerequisites: PH 111, CH 123, CHE 201 Prerequisite with concurrency: MA 201.

CHE 294 - NATURE & PROPERTIES OF MATLS

Semester Hours: 3

Introduction to the fundamental nature and properties of materials including bonding, composition, and phase diagrams. Composite materials and aspects of materials processing, including diffusion, nucleation, and transformation diagrams, will be presented. Prerequisites: CH 121 and PH 111.

CHE 295 - NATURE & PROPERTIES MATLS LAB

Semester Hour: 1

Experiments include characterizing material structures, testing mechanical properties and mapping phase diagram boundaries. Emphasis on numerical and statistical analysis of the data. Written reports are required, and elements of materials design are presented. Corequisite: CHE 294.

CHE 342 - TRANSPORT PHENOMENA

Semester Hours: 3

Fundamental aspects of heat and mass transfer and the use of these basic principles in solving problems in transport operations. Heat transfer with phase change. Diffusive and convective mass transfer with applications. Prerequisites: CH 351, CHE 244 Prerequisites with concurrency: MAE 310.

CHE 344 - CHEM ENGR THERMODYNAMICS

Semester Hours: 3

Thermodynamics of phase equilibria, chemical reactions and thermodynamic analysis of chemical processes, with emphasis on topics of special interest to chemical engineers. Prerequisites: CHE 244 and CH 351.

CHE 347 - QUANTITATIVE MODELING FOR CHE

Semester Hours: 3

Modeling and analysis of physical phenomena that arise in chemical engineering and an introduction to computer-aided design. Prerequisites: CHE 244, and MA 238.

CHE 359 - INDEPENDENT STUDIES IN CHE

Semester Hours: 1-3

Independent studies or research on a topic that requires the application of basic principles in chemical engineering. A written report, analytical or experimental analysis, and oral presentation will be required. Prerequisites: CHE 244 and CHE 294.

CHE 439 - UNIT OPERATIONS I

Semester Hours: 2

Experimental studies cover fluid mechanics and heat transfer in unit operations. Theoretical classes provide an introduction to engineering economy as well as standard laboratory practice, probability and statistical data analysis. Emphasis placed on written and oral laboratory report presentation techniques. Prerequisites: CHE 295 Prerequisite with concurrency: CHE 441.

CHE 440 - UNIT OPERATIONS II

Semester Hours: 2

Experimental studies covering reaction kinetics, mass separation, biotechnology, and special material properties. Applications of laboratory practices, probability and statistical data analysis, and ethics in professional practice. Emphasis placed on technical communications. Prerequisites: CHE 439, CHE 441 Prerequisite with concurrency: CHE 443.

CHE 441 - CHEM KINETICS & REACTOR DESIGN

Semester Hours: 3

Fundamental principles of chemical kinetics and chemical reactor engineering along with the design of both thermal and catalytic reactors. (Same as CHE 541) Prerequisites: CHE 344 and CHE 347.

CHE 443 - TRANSPORT PROCESSES

Semester Hours: 3

Applications of heat and mass transfer phenomena. Fins and heat exchangers, single-stage separation (vapor-liquid, liquid-liquid, gas/liquid-solid) and cascade separation (extraction, absorption/stripping, distillation, membranes). Prerequisites: CHE 342, CHE 344, CHE 347 and MAE 310.

CHE 445 - CHEMICAL PROCESS CONTROL

Semester Hours: 3

Fundamental principles of chemical process control; control system design for chemical processes. Prerequisite: CHE 441 and CHE 446.

CHE 446 - ANAL & DESIGN TRANSPORT EQUIP

Semester Hours: 3

Theory of transport phenomena from a unified approach to momentum, heat and mass transfer. Application of theory to the design of various transport equipment. Prerequisites: CHE 342 Prerequisite with concurrency: CHE 443.

CHE 448 - CHEMICAL ENGINEERING DESIGN

Semester Hours: 3

Capstone design course. Design of chemical engineering components, concluding with an overall team design effort using modern CAD techniques includes preliminary design, simulation, and economic evaluation of a chemical production flow sheet, and a study of ethical issues. Prerequisites: CHE 441, CHE 443, CHE 445, CHE 446.

CHE 459 - ADVD INDEPENDENT STUD CHE

Semester Hours: 1-3

Independent studies or research on a topic that requires a solid background in the foundations of chemical engineering. A written report, analytical or experimental analysis, and oral presentation will be required. Prerequisites: CHE 347 and either CH 363 or CH 440.

CHE 460 - INTRO TO BIOPROCESS ENGRG

Semester Hours: 3

Application of engineering principles to analysis of and development and design of processes using biological catalysts including enzymes, plant and animal cells, and genetically engineered cells. Other topics include fermentation and biological mass transport processes. (Same as CHE 560). Prerequisite: CH 361.

CHE 461 - BIOSEPARATIONS

Semester Hours: 3

Characteristics of separation processes used in biotechnology industries including removal of insolubles, isolation and purification of thermally sensitive products, and preparation for customer use. Applications for biological separations, recombinant DNA techniques, and protein engineering. (Same as CHE 561). Prerequisite: CHE 460.

CHE 485 - PROCESS SAFETY & TOXICOLOGY

Semester Hours: 3

Fundamentals of process safety and aspects of toxicology. Requires the application of chemical engineering concepts to review and analyze case studies to learn from industrial accidents. Introduces regulatory and design concepts. Prerequisite: CHE 448.

CHE 494 - APPLIED MATERIALS ENGINEERING

Semester Hours: 3

Synthesis and processing methods of materials. Selection and use of materials performance factors for design of structural and functional components. Use of computational methods in solving open-ended design problems using nature and properties of materials will be emphasized. (Same as CHE 594) Prerequisites: CHE 294 and CHE 344.

CHE 495 - POLYMER ENGINEERING

Semester Hours: 3

Engineering principles of polymers and their role in manufacturing processes. Aspects of polymer phenomena and their relationship to processing of structural and functional components. (Same as CHE 595) Prerequisites: CH 351 and CH 440.

Chemistry (CH)

CH 101 - INTRO TO CHEMISTRY

Semester Hours: 3

Properties of solids, liquids, gases, and solutions, atomic theory and bonding, concentration concepts, and physical and chemical properties of the more common elements and their compounds. No placement examination is required. Prerequisite: MA 110 or prerequisites with concurrency MA 112 or higher and CH 105.

CH 101R - RECITATION

Semester Hours: 0

CH 105 - INTRO CHEMISTRY LAB

Semester Hour: 1

Complements the lecture material for CH 101. Laboratory fundamentals and basic chemical principles. Prerequisite with concurrency: CH 101.

CH 121 - GENERAL CHEMISTRY I

Semester Hours: 3

For science and engineering majors. Chemical properties of elements, their periodic groups, and their compounds. Reactions and stoichiometry. Nature of the chemical bond, molecular structure, thermochemistry. Properties of gases, liquids, and solids. Prerequisite: CH 101 or placement test. Prerequisites with concurrency: MA 113 or higher, and CH 125.

CH 121M - GENERAL CHEMISTRY FOR CHEMISTS

Semester Hours: 3

For Chemistry Majors and Minors. Chemical properties of elements and the Periodic Table. Reactions and stoichiometry. Nature of chemical bonds, molecular structure, thermochemistry. Properties of gases, liquids, and solids. Intro to your exciting Department and its programs. Engagement activities. Prerequisites: CH 101 or Placement. Prerequisites with concurrency: MA 113 or higher, CH 125.

CH 121R - RECITATION

Semester Hours: 0

CH 122 - GENERAL CHEMISTRY ENGINEERS

Semester Hours: 3

This course is designed as a one semester presentation of key aspects in general chemistry and is recommended for all engineering majors except chemical engineers. Covers topic on atoms and molecules: reactions and stoichiometry; gases; the periodic table; atomic structure, chemical bonding and molecular structure; materials; energy, entropy, and free energy; kinetics and equilibrium; and electrochemistry. Substitutes for CH 121 when transferred to any other curriculum.

CH 123 - GENERAL CHEMISTRY II

Semester Hours: 3

Continuation of CH 121 with in-depth study of topics listed. To be taken concurrently with CH 126. Prerequisite: CH 121 or CH 121M.

CH 123R - RECITATION

Semester Hours: 0

CH 125 - GENERAL CHEMISTRY LAB I

Semester Hour: 1

Complements the lecture material for CH 121. Includes the determination of chemical and physical properties of materials, synthesis and characterization, and introduction to spectroscopy. Prerequisite with concurrency: CH 121 or CH 121M.

CH 126 - GENERAL CHEMISTRY LAB II

Semester Hour: 1

Complements the lecture material of CH 123. Includes an introduction to qualitative and quantitative analytical techniques. Prerequisite with concurrency: CH 123.

CH 151 - GENERAL, ORGANIC, BIOCHEMISTRY

Semester Hours: 3

Explore forms and behaviors of matter, composition of atoms with inorganic, nuclear, organic and biochemical reactions. Use bonding and nonbonding interactions to predict physical and chemical properties of atoms and compounds. Apply these concepts to nomenclature, reactivity, biological activity. Prerequisite: MA 112 with concurrency Co-requisite: CH 155.

CH 155 - GENORGBIOCHEM LAB

Semester Hour: 1

Complements the lecture material for CH 151. Laboratory fundamentals and basic chemical principles. Introduction to laboratory safety, practices, equipment and principles. This will include exploration of chemical bonding, gas laws, preparation of solutions, organic and biochemical concepts such as carbohydrates, lipids, and protein synthesis. Prerequisite with concurrency: CH 151.

CH 191 - FUNDAMENTALS OF CHEMICAL RES

Semester Hour: 1

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 192 - FUNDAMENTALS OF CHEMICAL RES

Semester Hours: 2

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 193 - FUNDAMENTALS OF CHEMICAL RES

Semester Hours: 3

Personalized programs to introduce beginning students to undergraduate research. Introduction to laboratory research techniques. Approval of supervising faculty member and chemistry chair required. Registration utilizes last digit of course number to designate semester-hour credit.

CH 201 - ELEM ORGANIC CHEMISTRY

Semester Hours: 3

Survey of nomenclature, structure, functional groups, properties and reactions of organic compounds. Prerequisites: (CH 101 and 105) OR (CH 121/CH 121M and 125). Prerequisite with concurrency: CH 205.

CH 205 - ELEM ORGANIC CHEMISTRY LAB

Semester Hour: 1

Laboratory component of CH 201. Includes reactions of organic compounds and functional group modifications. Prerequisite with concurrency: CH 201. Prerequisites: (CH 101 and CH 105) or (CH 121 and CH 125).

CH 223 - QUANTITATIVE ANALYSIS

Semester Hours: 3

Introduction to quantitative analytical chemistry including instrumentation. Data treatment, ionic equilibria, elementary electrochemical, spectrochemical, gravimetric, and volumetric techniques. Prerequisite: CH 126. Prerequisite with concurrency: CH 224.

CH 224 - QUANTITATIVE ANALYSIS LAB

Semester Hour: 1

Introduction to quantitative analytical chemistry laboratory. Experiments include pH measurements, spectrochemical, gravimetric, and volumetric titrations. Prerequisite: CH 126. Prerequisite with concurrency: CH 223.

CH 301 - ELEMENTARY BIOCHEMISTRY

Semester Hours: 3

Survey of structure and function of carbohydrates, lipids, proteins and nucleic acids. Enzyme properties and functions. Major metabolic pathways, interactions, and regulation. No credit given to chemistry majors or minors. Credit in CH 361 precludes credit in CH 301. Same as BYS 301. Prerequisites: BYS 119 and BYS 120 and either CH 201 or CH 331.

CH 311L - ORGANIC CHEM I LAB/OAKWOOD

Semester Hour: 1

CH 331 - ORGANIC CHEMISTRY I

Semester Hours: 3

Lecture/Lab includes one two-hour recitation per week. Chemistry of organic compounds. Synthetic methods, theory, and reaction mechanisms. Prerequisite: CH 123.

CH 331R - ORGANIC CHEM I RECITATION

Semester Hours: 0

To be taken as a co-requisite with CH 331. Organic chemistry problem solving, including nomenclature, reactions, mechanisms, spectroscopy, and test-taking strategy.

CH 332 - ORGANIC CHEMISTRY II

Semester Hours: 3

Lecture/Lab Includes one two-hour recitation per week. Continuation of CH 331. Prerequisite: CH 331.

CH 332R - ORGANIC CHEM II RECITATION

Semester Hours: 0

To be taken as a co-requisite with CH 332. Organic chemistry problem solving, including nomenclature, reactions, mechanisms, spectroscopy, and test-taking strategy.

CH 335 - ORGANIC CHEMISTRY LAB I

Semester Hour: 1

Techniques of organic chemistry including synthesis, separation, and identification of organic compounds with use of chemical and spectroscopic methods. Prerequisite with concurrency: CH 331. Prerequisite: CH 126.

CH 336 - ORGANIC CHEMISTRY LAB II

Semester Hour: 1

Continuation of CH 335. Prerequisite: CH 335. Prerequisite with concurrency: CH 332.

CH 337 - ORGANIC CHEMISTRY LAB III

Semester Hours: 2

Advanced organic chemistry laboratory treating reactions and techniques not covered in CH 335 and 336. Pursuit of a special open-ended problem by each student. Prerequisite: CH 336 and approval of instructor.

CH 341 - PHYSICAL CHEMISTRY I

Semester Hours: 3

An introduction to physical chemistry encompassing: the kinetic theory of gases, the laws of thermodynamics, chemical equilibrium, phase equilibria, electrolyte solutions, electrochemistry and elementary theories of statistical thermodynamics. Credit in CH 341 precludes credit in CH 347. Prerequisites: CH 123, PH 112, MA 201, PH 115.

CH 342 - PHYSICAL CHEMISTRY II

Semester Hours: 3

A survey of additional fundamental concepts of physical chemistry including: chemical kinetics, quantum chemistry, atomic structure, group theory, spectroscopy (i.e. IR, Raman, NMR, EMR, etc.), and surface and colloid chemistry. Credit in 342 precludes credit in CH 348. Prerequisite: CH 341.

CH 343 - INTRO TO QUANTUM CHEM

Semester Hours: 3

Quantum mechanical treatment of atoms, molecules, and spectroscopy. Prerequisites: CH 341 and MA 238.

CH 345 - EXPERIMENTAL PHYSICAL CHEM I

Semester Hour: 1

Laboratory and computer investigation into topics covered in physical chemistry CH 341. Includes thermodynamics, chemical equilibria and electrochemistry. The lab involves report writing, data and error analysis, error propagation and linear and nonlinear regression using appropriate software. Prerequisites: CH 223 and 224. Prerequisite with concurrency: CH 341 or 347.

CH 346 - EXPERIMENTAL PHYSICAL CHEM II

Semester Hour: 1

Laboratory and computer investigations into topics covered in physical chemistry CH 342. Includes kinetics, quantum mechanics and spectroscopy. The lab involves report writing, data and error analysis, error propagation and linear and nonlinear regression using appropriate software. Prerequisite: CH 345. Prerequisite with concurrency: CH 342 or 348.

CH 347 - BIOPHYSICAL CHEMISTRY I

Semester Hours: 3

Computers for data analysis and simulations. First and second laws of thermodynamics. Free energy and equilibrium. Calorimetry. Protein stability. Binding and Interactions. Solution thermodynamics. Electrolytes. Electrochemistry. Biochemical reaction kinetics. Enzyme catalysis. Same as BYS 347. Prerequisites: CH 332, PH 112 and MA 172, PH 115.

CH 348 - BIOPHYSICAL CHEMISTRY II

Semester Hours: 3

Quantum mechanics. Statistical thermodynamics. Spectroscopy, including UV-VIS, Fluorescence. Circular dichroism, NMR. Structure determinations. Same as BYS 348. Prerequisite: CH 347.

CH 351 - PHYS CHEM IN PRACTICE

Semester Hours: 3

Fundamental concepts and principles from chemical thermodynamics and reaction dynamics in practice. States of matter; energy and entropy; thermodynamic laws; chemical and phase equilibria; mixtures; and reaction rates, kinetics, and mechanisms. Derivations and computer applications of formula. Restricted to Chemical Engineering major only. Prerequisites: ENG 101 and CH 123 and MA 201 and either PH 112 or CHE 201.

CH 361 - GENERAL BIOCHEMISTRY

Semester Hours: 3

Nomenclature, structure, function, properties, and metabolism of amino acids, carbohydrates, lipids, and nucleic acids. Enzyme function, major catabolic pathways, their interrelations and control mechanisms. Glycolysis, Citric Acid Cycle, and oxidative phosphorylation. Same as BYS 361. Prerequisites: (BYS 120, CH 332 and CH 335) or (BYS 311, CH 332 and CH 335).

CH 362 - GENERAL BIOCHEMISTRY LAB

Semester Hour: 1

Lecture/Lab One 3-hour lab a week. Practical experience in isolation, qualitative identification, and quantitative estimation of biomolecules. Same as BYS 362. Prerequisites: CH 335 and 336. Prerequisite with concurrency: CH 361.

CH 363 - GEN BIOCHEMISTRY II

Semester Hours: 3

A continuation of CH 361 to include fatty acid and amino acid oxidation, enzymatic synthesis of biomolecules, integration of metabolic processes, DNA and RNA metabolism including replication and transcription, translation and protein synthesis, and regulation of gene expression. Same as BYS 363. Prerequisite: CH 361.

CH 364 - GEN BIOCHEMISTRY LAB II

Semester Hour: 1

Experimental course illustrating the topics in CH 363. Prerequisites: CH 361 and 362. Prerequisite with concurrency: CH 363.

CH 401 - INORGANIC CHEMISTRY

Semester Hours: 3

Fundamental topics in inorganic chemistry. Atomic structure, chemical bonding, symmetry, acid-base theories, non-aqueous solvents, coordination chemistry, crystal field and ligand field theory, main group and transition metal chemistry, organometallics, catalysis, and bioinorganic chemistry. Prerequisite: CH 332.

CH 402 - INORGANIC CHEMISTRY LAB

Semester Hour: 1

Laboratory techniques of inorganic chemistry including synthesis, purification, isolation, and identification of inorganic compounds. Prerequisite with concurrency: CH 401.

CH 421 - INSTRUMENTAL ANALYSIS

Semester Hours: 4

Introduction to modern analytical instrumentation including IR, UV and atomic absorption spectrophotometers, nuclear magnetic resonance, electroanalytical equipment, and gas and liquid chromatographs. Lecture and laboratory. Prerequisite with concurrency: CH 347, or BYS 347, or CH 341. Corequisite: CH 421L.

CH 421L - INSTRUMENTAL ANALYSIS LAB

Semester Hours: 0

Complements the lecture material for CH 421. Introduction to modern analytical instrumentation including IR, UV and atomic absorption spectrophotometers, nuclear magnetic resonance, electroanalytical equipment, and gas and liquid chromatographs. Prerequisites with concurrency: CH 341 or CH 347 or BYS 347. Corequisite: CH 421.

CH 435 - CHEMICAL TOXICOLOGY

Semester Hours: 3

An introduction to the principles of chemical toxicology, including the effects of drugs, environmental pollutants, natural toxins and venoms, and other potentially hazardous chemicals, at the physiological, cellular, and molecular level. Prerequisites: CH 332 and CH 361.

CH 440 - POLYMER SYNTHESIS & CHARACTERI

Semester Hours: 3

Synthesis of commercially relevant and novel polymers. Polymer characteristics and a discussion of the structural dependence of polymer properties. Course completion and/or grade requirements for undergraduate credit will differ from those for graduate credit. Prerequisites: CH 331 and CH 332.

CH 480 - SELECTED TOPICS IN CHEM

Semester Hours: 1-3

Special offerings to students in areas of interest not covered in present curriculum. Prerequisites: senior standing and approval of instructor.

CH 491 - INTRO TO CHEMICAL RESEARCH

Semester Hour: 1

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

CH 492 - INTRO TO CHEMICAL RESEARCH

Semester Hours: 2

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

CH 493 - INTRO TO CHEMICAL RESEARCH

Semester Hours: 3

Personalized programs to round out the undergraduate curriculum of students with various goals. Registration utilizes last digit of course number to designate semester hour credit. Student normally may elect only up to 6 hours. Prerequisites: Senior standing. Approval of supervising faculty member and chemistry chair required.

Civil Engineering (CE)

CE 211 - CIVIL ENGINEERING GRAPHICS

Semester Hours: 2

Fundamental concepts in computer-aided graphics as they apply to civil engineering. Topics include lettering, sketching, manipulation of elements, rotation of views and input of data. Students will gain engineering practice through AutoCad laboratory exercises. Prerequisite: EGR 101 with minimum grade of C-.

CE 271 - STATICS

Semester Hours: 3

Topics include: forces, resultant forces, moments, couples, equivalent forces systems, equilibrium, distributed loads, two force members, trusses, centroids, moments of inertia, shear and bending moment diagrams, static and kinematic friction. (Same as MAE 271). Prerequisite: EGR 101, PH 111 Prerequisite with concurrency: MA 201.

CE 272 - DYNAMICS

Semester Hours: 3

Kinematics and kinetics of a particle and systems of particles with applications to central force motion, impact, relative motion, vibrations, and variable mass systems. Dynamics of rigid body in plane motion, relative motion in rotating coordinates, and gyroscopic motion. (Same as MAE 272). Prerequisites: MA 201 and (CE 271 or MAE 271).

CE 284 - SURVEYING

Semester Hours: 2

Basic theory and practical field methods for engineering applications. Measurements and errors in surveying. Leveling, traversing, stadia, topographic surveys, mapping, and circular curves. 1.5 hour lecture and 2 hour lab. Prerequisite with concurrency: CE 211. Corequisite: CE 284L.

CE 284L - SURVEYING LAB

Semester Hours: 0

Corequisite: CE 284.

CE 321 - INTRO TO TRANSPORTATION ENG

Semester Hours: 3

Theory, design, and operation of various modes of transportation with emphasis on traffic flow. Prerequisites: CE 284 and MA 171.

CE 370 - MECHANICS OF MATERIALS

Semester Hours: 3

Design and analysis of simple structures for predetermined strength and deformation requirements. Topics include: theory of stress-strain, Hooke's Law, analysis of stresses and deformations in bodies loaded by axial, torsional, bending, and combined loads, and analysis of statically indeterminate systems. Same as MAE 370. Prerequisites: (CE 211 or MAE 211) and (CE 271 or MAE 271) and MA 244, corequisite CE 375.

CE 370L - LABORATORY

Semester Hours: 0

Corequisite: CE 370 or MAE 370.

CE 372 - SOIL MECHANICS & FOUNDATION

Semester Hours: 3

Index properties and characteristics of soils. Compaction shear, compressibility and permeability. Application to analysis and design of foundation elements. Laboratory included. Prerequisites: (CE 370 or MAE 370) Prerequisite with concurrency: MAE 310 Corequisite: CE 373.

CE 373 - SOIL MECHANICS LAB

Semester Hour: 1

Corequisite: CE 372.

CE 375 - MECHANICS OF MATERIALS LAB

Semester Hour: 1

Experimental verification of material properties and structural deformation under axial, torsional, and bending loads. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. (Same as MAE 375). Corequisites: CE 370.

CE 380 - CIVIL ENGINEERING MATERIALS

Semester Hours: 3

Performance properties and selection criteria of various materials used in the practice of civil engineering including aggregates, Portland cement, concrete, bituminous materials, and timber. Emphasis will be placed on standard methods of testing and characterization. Includes a weekly lab. Prerequisites: CE 370 or MAE 370. Corequisite: CE 380L.

CE 380L - CE MATERIALS LAB

Semester Hours: 0

Standard methods of testing and characterization of various materials used in the practice of civil engineering. Determination of civil engineering materials properties. Corequisite: CE 380.

CE 381 - STRUCTURAL ANALYSIS I

Semester Hours: 3

Reactions, shears, moments in determinate structures. Influence lines, energy methods in computing deformations. Introduction to indeterminate structures. Prerequisites: (CE 272 or MAE 272) and (CE 370 or MAE 370).

CE 411 - INTRO GEOGRAPHICAL INFO SYS

Semester Hours: 3

Introduces vector, raster, and tabular concepts. Topics include spatial relationships, map features, attributes, relational database, layers of data, data ingesting, digitizing from maps, projections, output, and availability of public data sets. Same as CE 511.

CE 412 - ADVANCED CE GRAPHICS

Semester Hours: 3

Trending geospatial and graphics technologies including 3-D land development workflows, GPS data acquisition and processing of aerial, lidar, and topographical surveys, terrain modeling, earthwork, sanitary, drainage, and transportation design methodologies within the graphical CAD environment. Prerequisite: CE 211.

CE 420 - URBAN TRANSPORTATION PLANNING

Semester Hours: 3

Planning of highways systems and terminals as part of a complete planning approach; public transportation system planning; transportation planning studies, projection analysis, plan formulation, and programming. Same as CE 520. Prerequisite: CE 321.

CE 422 - TRAFFIC ENGINEERING DESIGN

Semester Hours: 3

Driver, pedestrian and vehicle characteristics. Principles of traffic flow for improved highway traffic service and safety. Design freeways, rural roads, urban streets, traffic signals, signs, channelization, and other traffic control measures. Prerequisite: CE 321.

CE 441 - HYDRAULIC ENGINEERING DESIGN

Semester Hours: 3

Water-hammer analysis, open channel flow, hydraulic structures such as dams, spillways, stilling basins, flood control devices, locks, pipe-flow systems and water-supply facilities, and computational methods. Prerequisite: MAE 310.

CE 449 - INTRO ENVIRONMENTAL ENGR

Semester Hours: 3

Engineering aspects of air, water, and thermal pollution. Hydrologic cycle, water sources and uses; industrial and other sources of primary and secondary pollutants. Transport process in environmental problems and their control. (Same as CE 549 and CHE 549) Prerequisite: MAE 341. Prerequisite with concurrency: MAE 310.

CE 452 - CREDIT EXPERIENTIAL LEARNING

Semester Hours: 1-3

Students are engaged in research and creative projects as meaningful experiential learning opportunities. The course fosters cooperation between students and faculty in a research or creative endeavor, and enhances the students' education via active participation in a research, creative or scholarly project.

CE 456 - WATER QUALITY CONTROL PROC

Semester Hours: 3

Principles of public water-supply design. Source selection, collection, purification, and distribution for municipal use. Collection of waste waters, their treatment and disposal. (Same as CE 556). Prerequisite: CE 449.

CE 457 - HYDROLOGY

Semester Hours: 3

Occurrence and movements of water over the earth's surface for engineering planning and design. Relationship of precipitation to stream-flow with frequency analysis, flood routing, and unit hydrograph theory. (Same as CE 557) Prerequisite: MAE 310.

CE 458 - ENVIRONMENTAL ENGR DESIGN

Semester Hours: 3

Engineering design and project management of environmental quality/restoration systems. Students will complete a design project focusing on one of the following systems: sanitary landfill, municipal incinerator, or groundwater/site remediation. Lectures will address skills for technical presentations and proposal writing, as well as process design and decision making. (Same as CE 558) Prerequisite with concurrency CE 449.

CE 459 - SEL TOP IN CIVIL ENGR

Semester Hours: 1-6

Special topics in Civil Engineering.

CE 471 - ADVANCED SOIL MECHANICS

Semester Hours: 3

Continuum mechanics applied to soil behavior. Theoretical approaches to consolidation, shear strength, slope stability and soil stabilization. Prerequisite: CE 372.

CE 472 - SOIL DYNAMICS

Semester Hours: 3

Behavior of soils under dynamic, earthquake and blast loading. Analysis of foundation vibration and isolation. Prerequisite: CE 372.

CE 473 - EARTH STRUCTURES ENGRG

Semester Hours: 3

Principles of earth structure design. Theories of earth pressures and the design of retaining wall systems including gravity, cantilever, mechanically stabilized earth, flexible sheet pile, and anchored wall systems. Methods of stability analyses for retaining walls, earth slopes, and embankment design. (Same as CE 573) Prerequisites: CE 372 and CE 373.

CE 474 - APP MECHANICS OF SOLIDS

Semester Hours: 3

Stresses and strains at a point, theories of failures, stress concentration factors, thick-walled cylinders, torsion of noncircular members, curved beams, unsymmetrical bending and shear center. (Same as CE 574 and MAE 474 or MAE 574) Prerequisites: CE 370 or MAE 370.

CE 481 - STRUCTURAL ANALYSIS II

Semester Hours: 3

Reactions, shears, moments and deformations in complex structural systems. Statically indeterminate systems, advanced geometric and energy methods. Prerequisite: CE 381.

CE 483 - REINFORCED CONCRETE DESIGN

Semester Hours: 3

Theory and practice of reinforced concrete design. Theory and design of high strength concrete mixtures. Design of reinforced concrete beams, slabs, and columns using the ultimate strength design code of the American Concrete Institute. Same as CE 583. Prerequisites: CE 380 and CE 381.

CE 484 - STEEL DESIGN

Semester Hours: 3

Principles of design of steel structures using ASD methods. Analysis and design of structural elements using beams, columns, connection details. (Same as CE 584). Prerequisites: CE 381 and MA 244.

CE 485 - FOUNDATION ENGINEERING

Semester Hours: 3

Design of foundations with emphasis on reinforced concrete, footings, caissons, piles retaining walls, and mat foundations. Effect of bearing pressure on foundations. (Same as CE 585) Prerequisites: CE 372 and CE 483.

CE 487 - BRIDGE DESIGN

Semester Hours: 3

Bridge loads, load distribution, composite beam bridges, bridge bearings, reinforced and prestressed concrete slab and T-beam bridges, bridge evaluations and ratings, and upgrade methodology. (Same as CE 587) Prerequisite: CE 483.

CE 498 - CIVIL ENGINEERING DESIGN I

Semester Hour: 1

Planning and analysis for a preliminary civil engineering design project. Topics include fundamentals of management, public policy, cost estimation, environmental impacts, soils analysis, and ethical considerations. Part 1 of a 2-part course. Prerequisites: CE 321 and CE 399 or EGR 399 Prerequisites with concurrency: CE 372, CE 483.

CE 499 - CIVIL ENGINEERING DESIGN II

Semester Hours: 2

Analysis and design of a complete civil engineering project including establishment of design criteria, cost estimates, specifications, and plans. Topics include ethical considerations in engineering design and practice. Emphasis on developing written and oral communication skills. Prerequisites: CE 498. Corequisite: CE 499L.

CE 499L - DESIGN II LABORATORY

Semester Hours: 0

Corequisite: CE 499.

Communication Arts (CM)

CM 113 - Intro to Rhetorical Communication

Semester Hours: 3

Develops public speaking skills through an examination of rhetorical theory, training, and practice. Includes informative, persuasive, and other forms of speeches to prepare students for oral presentations in college and post-college ("real world") settings.

CM 205 - INTRO TO JOURNALISM

Semester Hours: 3

Focuses on basic news writing skills specific to print journalism. Students will learn to identify news values, develop leads, organize information, write stories in the inverted pyramid style, revise drafts, and copy-edit articles, all while working under simulated deadline pressure.

CM 220 - INTRO PUBLIC RELATIONS

Semester Hours: 3

This course is designed to introduce students to the public relations profession. Through study of rhetorical and communication strategies, individual and group projects, as well as speaking and writing experiences, students gain the knowledge necessary to actively participate as effective public relation professionals.

CM 231 - FOUNDATIONS OF HUMAN COMMUNICATION

Semester Hours: 3

Examines how human communication shapes and adapts to a variety of practical settings public, interpersonal, organizational, mass, and technical. It prepares students for effective work in various communication contexts.

CM 251 - DECISION-MAKING IN SMALL GROUP

Semester Hours: 3

Provides working knowledge of how small groups communicate in the decision-making process. Students put theory into practice by functioning as group participants, observers, and consultants. Emphasis is placed on leadership, theoretical application, group participation, and oral presentation.

CM 310 - PERSUASION

Semester Hours: 3

Provides foundation in the theories, principles, and strategies of social influence through theory and application. Students explore persuasive communication, social influence, and compliance-gaining from a social-scientific level and examine the production and consumption of persuasive messages.

CM 313 - BUSINESS & PROFESSIONAL COMM

Semester Hours: 3

Examines communication theories and practices relevant to the business context with a focus on oral presentations, interviewing, group leadership, and face-to-face communication. Develops knowledge and skills necessary for effective communication within business environments. (Prepare business administration students to meet the oral communication requirement in upper division and graduate business courses).

CM 320 - PRACTICUM IN WRITING

Semester Hours: 1-3

Writing and editing under the supervision of professionals. May be repeated up to 3 times for no more than 3 hours total credit. Enrollment requires advance planning. Prerequisites: CM 301, CM 302, enrollment in the Technical Writing Track, and a successful interview with the participating technical supervisor.

CM 330 - NONVERBAL COMMUNICATION

Semester Hours: 3

Examines the diversity of specific human nonverbal behavior, such as eye contact, touch, time, appearance, and distance and how the behaviors influence everyday communication experiences. Drawing on theory, students explore the practical ways verbal and nonverbal communication intersect in everyday interactions to create shared meaning. Same as PY 330.

CM 331 - COMMUNICATION THEORY

Semester Hours: 3

Examines significant theoretical frameworks for the study of human communication and mass communication. Develops knowledge of communication processes and social influence. Provides preparation for senior seminar in communication theory and research. Prerequisite: CM 231.

CM 333 - INTERPERSONAL COMMUNICATION

Semester Hours: 3

Provides an introduction to the process of communication between individuals. Course content focuses on the application of theory and research to dyadic relationships spanning intimates, families, and friends. Prerequisite: CM 231 or permission of instructor.

CM 340 - SPEC TOPICS IN COMM ARTS

Semester Hours: 3

Topics announced in advance. Representative topics include rhetoric and war, technical theatre, and culture and communication. May be repeated twice for credit.

CM 370 - COMM RESEARCH METHODS

Semester Hours: 3

Examines social scientific concepts, theories and designs commonly used in interpersonal communication research. Develops knowledge and skills necessary for employment in fields involving the study of communication behavior and perception. Provides preparation for senior seminar in communication theory and research. Prerequisite: MA 107 or 110 or 112 or 113 or 115 or 120 or 171.

CM 375 - RHETORICAL CRITICISM

Semester Hours: 3

This course is an introduction to the critical analysis of public discourse. Specifically, it focuses on understanding how the variables of situation, audience, and rhetoric influence the production and reception of public messages. Teaching students to understand the persuasive potential of messages prepares them as critical consumers, analysts, and potential creators of such messages. Prerequisite: CM 113 or approval of instructor.

CM 400 - INTERNSHIP

Semester Hours: 1-6

Practical experience in the workplace allows the student to apply principles, theories, and skills learned in communication arts courses. Arranged by the student with consent of the chair, the student meets regularly with a faculty advisor, keeps a log of activities, and submits a report on the internship. Prerequisite: Senior Standing with CM major, and permission of instructor.

CM 405 - ADVANCED MEDIA WRITING

Semester Hours: 3

An upper level course that offers an overview of various media writing genres, including Broadcast, Advertising and Public Relations. Students complete a mix of timed assignments within each context to acquire a more complete survey of media writing and prepare for a career within the mass media. Prerequisite: CM 205.

CM 408 - CLASSICAL RHET THEORY

Semester Hours: 3

This course surveys the early development of rhetorical theory in the Western world, from its sophistic origins in the 5th century BCE, through the Greek philosophers and educators, to the Romans and early Christians. Prerequisites: CM 113.

CM 409 - CONTEMPORARY RHETORICAL THEORY

Semester Hours: 3

This course surveys contemporary rhetorical thought, including modern and postmodern theories. The course requires rigorous academic analysis and critique as students explore historical and current rhetorical concepts. Prerequisite: CM 113.

CM 414 - CREATIVE NONFICTION WRITING

Semester Hours: 3

This course introduces students to the genre of creative non-fiction. Undergraduate students will write five essays and revise toward a final writing portfolio.

CM 418 - LEGAL ARGUMENT

Semester Hours: 3

Examines argumentation in legal communities, that is, the way lawyers and judges provide reasoned support for the positions they defend concerning what the law requires in a given case. It considers common forms of legal argument, sources and forms of evidence, and legal values that underlie legal argument. It provides students with a critical perspective from which to judge legal arguments and a basic set of tools for developing legal arguments.

CM 420 - PUBLIC RELATIONS WRITING

Semester Hours: 3

This course provides students with professionalization in their writing and editorial skills in public relations. By emphasizing different audiences and various media, students will find and hone their public relations voice. Students will gain experience with instant responses, making ethical and legal decisions, and practicing a wide range of PR writing and design including the development of media kits, pitches, backgrounders, press releases, memos, newsletters, radio announcements, and brochures. Prerequisite: CM 220 (C or better).

CM 430 - MASS MEDIA IN AMERICA

Semester Hours: 3

This course provides an overview of major forms of mass media communication. It focuses on both print and electronic media, its history and structure as well as on theories of mass communication. Students will become familiar with the current role and influence of media in society.

CM 431 - SENIOR SEMINAR

Semester Hours: 3

Senior capstone course involving either a scholarly project or an approved communication-intensive internship. Prerequisites: CM 370 and CM 375, and senior standing.

CM 433 - DARK SIDE INTERPERSONAL COMM

Semester Hours: 3

Traditional Interpersonal Communication pedagogy focuses on more of the positive aspects of relationship formation and maintenance. This course offers a more complete view of human relationships by exploring a variety of topics related to the "darker" side of relationships situated in the contexts of friendships, family members, and intimates. By exploring issues such as deception, fatal attraction, jealousy and envy, conflict, stalking, abuse, and many others, students acquire a more complete view of human relationships. Prerequisite: CM 231.

CM 435 - SOCIAL MEDIA

Semester Hours: 3

This course focuses on uses and effects of social media in interpersonal, organizational, mass mediated, health, and political settings. Social media technologies take on many different forms including social networking sites, micro-blogging, wikis, online videos, and blogs. Following questions are discussed in class: Who uses social media? How do people use social media to develop relationships, get social support, and evoke political change? Is privacy dead? How do employers use social media to check on employees?.

CM 440 - PUBLIC RELATIONS CAMPAIGN

Semester Hours: 3

This course provides professionalization and team work experience for students in the public relations track. Students practice the research, planning, implementation, and evaluation of strategic communication plans for various public relations contexts. Prerequisite: CM 220 (C-or better).

CM 442 - USABILITY STUDIES

Semester Hours: 3

Introduces students to theory and practice of usability, which involves designing useful, easy-to-use websites, software, and products. The course involves group projects conducting real-work usability testing. Requires at least Junior standing.

CM 444 - ADVERTISING

Semester Hours: 3

This course will examine the emergence of advertising as a form of communication, its influence upon other forms of mediated communications and its impact upon culture and society. Students will learn how to develop and present an advertising strategy for an actual brand. Prerequisite: Junior standing.

CM 451 - ORGANIZATIONAL TRNG & DEVELOP

Semester Hours: 3

Provides upper-level undergraduates with the opportunity to learn how to design organizational training programs beginning with the needs assessment and continuing through the evaluation and implementation phases. Prerequisite: Junior standing.

CM 452 - USER CENTERED DESIGN

Semester Hours: 3

Introduces students to user-centered design principles that inform the practice of user experience design. Students will use visual thinking as they complete contextual inquiries and mapping exercises.

CM 454 - NEW MEDIA WRITING & RHETORIC

Semester Hours: 3

This course teaches students to apply rhetorical principles across a variety of media and includes an examination of communication strategies used widely in academic and industry settings. The course focuses on new media through an exploration of digital technologies and the way digital culture and new media have dramatically impacted reading, writing, and research practices. Prerequisites: EH 101 and EH 102.

CM 455 - COMMUNICATION & CULTURE

Semester Hours: 3

This course focuses on the application of theory and research to intercultural communication. Topics and activities assist the students in developing communication skills that improve their competence in intercultural situations. By addressing the different world views that shape our perceptions, values, attitudes, and beliefs of different people, the Culture and Communication course challenges students to become aware of cultural differences, avoid ethnocentrism, and work toward effective communication with unlike others. Prerequisite: Junior standing.

CM 460 - CRISIS COMMUNICATION

Semester Hours: 3

During a time where companies face instant and intense scrutiny. It is imperative to know how to use effective crisis management. This course focuses on the steps of crisis and issue management. It also includes in-depth analysis of current crisis situations.

CM 499 - INDEPENDENT STUDY

Semester Hours: 3

Directed, independent study allows a student to explore an approved scholarly inquiry within Communication Arts, and under the direction of a CM faculty member, resulting in a research paper or project. Student must present a project prospectus, or detailed syllabus, for approval of the faculty member and the department chair. Junior or Senior standing required.

Computer Engineering (CPE)

CPE 211 - INTRO COMPUTER PROG FOR ENGR

Semester Hours: 3

Advanced programming in a high level language such as C++ with an emphasis on practice in solving engineering problems using top-down design and algorithms. Prerequisites: EGR 101 and MA 171 (with concurrency).

CPE 211L - LABORATORY

Semester Hours: 0

This lab is the 0-credit lab component of the 3 credit course.

CPE 212 - FUNDAMENTALS SOFTWARE ENGRG

Semester Hours: 3

Introduction to structured programming using C++. Search and sort algorithms. Introduction to data structures. Applications to engineering related problems. Prerequisite: CPE 211.

CPE 221 - COMPUTER ORGANIZATION

Semester Hours: 3

Functional organization of stored-program digital computers including number representation, assembly language programming, computer hardware, micro-operations, and control logic; microprocessor architecture. Prerequisite: CPE 211 and EE 202 w/concurrency.

CPE 299 - CPE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: CPE 211.

CPE 322 - DIGITAL HDWR DESIGN FUNDMNTLS

Semester Hours: 3

Advanced concepts in Boolean algebra, use of hardware description languages as a practical means to implement hybrid sequential and combinational designs, digital logic simulation, rapid prototyping techniques, and design for testability concepts. Focuses on the actual design and implementation of sizeable digital design problems using representative Computer Aided Design (CAD) tools. Laboratory required CPE 324. Prerequisite: CPE 221.

CPE 323 - INTRO TO EMBEDDED COMPUTER SYS

Semester Hours: 3

Hardware and software aspects in building embedded computer systems. Includes methods to evaluate design tradeoffs of different technology choices and technology capabilities and limitations of system components necessary to design and implement an embedded system and interface it to the outside world. Laboratory required CPE 325. Prerequisite: CPE 221.

CPE 324 - ADV LOGIC DESIGN LABORATORY

Semester Hour: 1

This course includes experimentation of fundamental concepts in digital logic design. Use of hardware description languages as a practical means to implement hybrid sequential and combinational digital designs, digital logic simulation, and rapid prototyping techniques. Corequisite laboratory component of CPE 322.

CPE 325 - EMBEDDED SYSTEMS LAB

Semester Hour: 1

Student gain experience working with modern integrated software development environments and hardware platforms to solve practical problems. Corequisite laboratory component of CPE 323.

CPE 348 - INTRO TO COMPUTER NETWORKS

Semester Hours: 3

Introduction to the concepts and architecture of computer networks. Review of communication protocols using the Internet and the TCP/IP model as major examples. High-speed networking, congestion control, data compression, security and distributed processing. Prerequisites: CPE 211 and CPE 221.

CPE 353 - SOFTWARE DESIGN & ENGINEERING

Semester Hours: 3

Hands-on experience developing a substantial software project using software design tools such as SQL database system and the Qt graphical interface development environment. Introduction to a software process including requirements elicitation and testing techniques. Prerequisites CPE 212 and CS 317 (with concurrency).

CPE 381 - FUND SIGNALS & SYS FOR COMP EN

Semester Hours: 3

Introduction to the fundamental concepts in continuous and discrete signals and systems, and methods of signal and system analysis for computer engineers. No credit for EE or OPE students. Prerequisites: EE 213 and MA 238.

CPE 399 - CPE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: CPE 299 and CPE 212.

CPE 412 - INTRO TO PARALLEL PROGRAMMING

Semester Hours: 3

Introduction to processing in parallel and distributed computing environments. Design and analysis of parallel algorithms. Parallel programming environments: Pthreads for shared memory multiprocessor systems, and PVM/MPI for distributed networked computers. (Same as CPE 512)

Prerequisites: CPE 212 and CS 317.

CPE 423 - HARDWARE/SOFTWARE CO-DESIGN

Semester Hours: 3

Study and design of Systems On A Chip (SOC). Emphasis on Field Programmable realizations of SOC systems. (Same as CPE 523) Prerequisites: CPE 322 and CPE 426.

CPE 426 - VLSI HARDWARE DESC LANG/MODL/S

Semester Hours: 3

Modern VLSI design techniques and tools, such as silicon compilers, (V)HDL modeling languages, placement and routing tools, synthesis tools, and simulators. Students will design, simulate, and layout using both programmable logic families and ASIC libraries. (Same as CPE 526) Prerequisites: EE 202 and EE 315.

CPE 427 - VLSI DESIGN I

Semester Hours: 3

Introduction to VLSI design using CAD tools, CMOS logic, switch level modeling, circuit characterization, logic design in CMOS, systems design methods, test subsystem design, design examples, student design project. Laboratory required CPE 427L. (Same as CPE 527) Prerequisites: EE 202 and EE 315.

CPE 427L - LABORATORY

Semester Hours: 0

Students enrolling in CPE 427L must enroll concurrently in CPE 427.

CPE 431 - INTRO COMPUTER ARCHITECTURE

Semester Hours: 3

Study of existing computer structures. Computer organization with emphasis on busing systems, storage systems, and instruction sets. Performance models and measures, pipelining, cache and virtual memory, introduction to parallel processing. (Same as CPE 531) Prerequisites: CPE 322 and CPE 323.

CPE 434 - OPERATING SYSTEMS

Semester Hours: 3

Study of the fundamentals of operating systems. Emphasis on processes, file management, interprocess communication, input-output, virtual memory, networking and security. Course must be taken concurrently with CPE 435. Prerequisites: CPE 221 and CPE 353/.

CPE 435 - OPERATING SYSTEMS LABORATORY

Semester Hour: 1

Laboratory component of Operating Systems course. Experiments include implementation of device drivers, process and thread management, virtual memory management, dynamic memory management, file-systems. Students must take this course concurrently with CPE 434.

CPE 436 - INTERNALS OF MODERN OPER SYS

Semester Hours: 3

In-depth study of the design of modern operating systems such as Unix, NT and Linux. Emphasis on the internals and implementation details of interrupt processing, real-time clocks, device independent I/O, process management, memory management, file management. (Same as CPE 536) Prerequisite: CPE 434.

CPE 449 - INTRO TO CYBERSECURITY ENGINRG

Semester Hours: 3

Introduction to cryptography and computer security through hardware and physical security to a knowledge of audit methods, security management, and public law. Includes skills such as business process analysis, software security, IAE evaluation, and IAE testing. (Same as CPE 549) Prerequisite: CPE 348.

CPE 453 - SENIOR SOFTWARE STUDIO

Semester Hours: 3

Basic concepts of software engineering. Software project management including specifications, design, implementation, testing and documentation. Software design and management tools. Includes a multi-student software project. Prerequisites: CPE 353 and CS 317.

CPE 455 - SECURE SOFTWARE DEVELOPMENT

Semester Hours: 3

Overview of methodologies for development of high-assurance software. Major topics include analysis of security and safety risks, software certification criteria, the software development lifecycle, risk mitigation, design and coding best practices, verification techniques, and auditing of software for insecure and unsafe coding constructs. Prerequisites: CPE 353 or CS 307.

CPE 457 - SOFTWARE REVERSE ENGINEERING

Semester Hours: 3

This course provides fundamental knowledge of software reverse engineering. The course provides the ability (a) to understand software of unknown origin or software for which source code is unavailable, (b) to determine how something works, (c) to discover data used by software, and (d) to aid in the analysis of software. The course introduces tools for reverse engineering, including disassemblers, debuggers, monitors, virtual machines and modern tools for software analysis. Prerequisites: CPE 353 or CS 307.

CPE 459 - SYSTEMS SECURITY

Semester Hours: 3

This course (1) introduces cyber physical, industrial control, embedded, and Supervisory Control and Data Acquisition (SCADA) control systems, (2) examines common vulnerabilities and threats associated with these systems, and (3) examine techniques to defend these systems from cyber-attacks. Prerequisite: CPE 348 and CPE 449.

CPE 488 - CYBERSECURITY ENG CAPSTONE I

Semester Hours: 3

Students will participate in a team based cybersecurity project which is a culminating experience for the cybersecurity degree. For a target system, students teams will conduct and document a risk assessment, then design, implement, and test cybersecurity controls to mitigate threats to the system. Prerequisites: CPE 399 and Prerequisite with concurrency: CPE 449, CPE 457, CS 465.

CPE 490 - SPECIAL TOPICS IN COMP ENGR

Semester Hours: 1-3

Topics will vary. The course may be repeated when topics vary. Consent of advisor.

CPE 490L - SPECIAL TOPICS LABORATORY

Semester Hours: 0

CPE 495 - COMPUTER ENGINEERING DESIGN I

Semester Hours: 3

First course in the senior capstone design sequence. Application of techniques to the design of electronic systems that have digital hardware and software components. Application of engineering courses to solve real-world design problems. Must be taken in the same academic year as CPE 496. Prerequisites: CPE 323, CPE 353, EE 315, EE 322 and CPE 399 or EGR 399.

CPE 496 - COMPUTER ENGINEERING DESIGN II

Semester Hours: 3

Second course in the senior capstone design sequence. Must be taken in the same academic year as CPE 495. Prerequisite: CPE 495.

CPE 497 - COMPUTER ENGR INTERNSHIP

Semester Hours: 1-3

Active involvement in an engineering project in an engineering enterprise, professional organization, or government agency that has particular interest and relevance to the student. Junior/senior standing and approval from Engineering Faculty advisor.

CPE 498 - CYBERSECY ENGR CAPSTONE II

Semester Hours: 3

Students will participate in a team based cybersecurity project which is a culminating experience for the cybersecurity degree. For a target system, student teams will conduct and document a risk assessment, then design, implement, and test cybersecurity controls to mitigate threats to the system. Prerequisite: CPE 488. Prerequisite w/ concurrency: CPE 459.

CPE 499 - PROJECT IN COMPUTER ENGRG

Semester Hours: 3

Individual design project under the direction of an ECE faculty member. Senior standing and permission of instructor required.

Computer Science (CS)

CS 100 - INTRO COMPUTERS & PROGRAM

Semester Hours: 3

Overview of computer programming using Python. This course is a high level introduction to computing methods and programming basics for non-CS majors. Fundamental programming constructs are presented including program structure, control flow and file utilization. Concepts are presented through class lectures supplemented with simple hands-on programming assignments.

CS 102 - INTRO TO C PROGRAMMING

Semester Hours: 3

Introduction to program design and implementation in the C programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, and file organization.

CS 103 - INTRO PROGRAMMING USING JAVA

Semester Hours: 3

Introduction to program design and implementation in the Java programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, data types, control structures, methods and file organization.

CS 104 - INTRO TO CS USING PYTHON

Semester Hours: 3

Introduction to program design and implementation in the Python programming language, using hands-on programming assignments, class demonstrations and lectures. Problem analysis and some testing techniques. Basic program structure, and file organization.

CS 105 - COMP SCI SEM:ETH/PROFESS

Semester Hour: 1

Issues associated with the ethical use of computers in the information age. Ethics, professionalism, software piracy, copyrighting software, ethical standards and the impact of computers on society will be covered. Familiarization with the local computing environment will also be covered.

CS 121 - COMPUTER SCIENCE I

Semester Hours: 3

Review of problem solving techniques, algorithm development, and fundamental language features; e.g., loops, decisions. In depth coverage of functions, arrays, I/O. Principles of software design, implementation, and testing. Introduction to object oriented design and the C++ programming language. Prerequisites: CS 102 or 103 or 104, and either MA 113, 115, 120, 171, 172, 201, 238, or 244 (with concurrency).

CS 143 - INTRO TECH MULTIMEDIA & GAMING

Semester Hours: 3

Introduction to terminology, technologies and tools for multimedia and gaming. Elements such as text, sound, images, animation, video, and how they are represented, captured, edited, stored, and published. Overview of multimedia and gaming technologies, multimedia authoring, publishing on the web.

CS 214 - INTRO DISCRETE STRUCTURE

Semester Hours: 3

Review of set algebra including mappings and relations. Algebraic structures including semigroups and groups. Elements of theory of directed and undirected graphs; Boolean algebra and propositional logic and applications of these structures to various areas of computer science. Prerequisites: MA 171 and either CS 121 or CPE 211.

CS 217 - ANALYTIC TECH GAMING

Semester Hours: 3

Mathematics for understanding & implementing 3-dimensional graphics & interactive physical modeling in computer games. Topics: coordinate systems, vectors, matrices, transformations, kinematics, dynamics, automata, and probability. Focused on practical mathematics rather than theoretical derivations. Prerequisites: MA 120 or MA 171.

CS 221 - COMP SCI II: DATA STRUCTURES

Semester Hours: 3

Advanced features of the C++ programming language, including pointers, recursion, classes, and inheritance. Fundamental data structures including linked lists, stacks, queues, binary search trees. Basic sort and search algorithms. Design, development, and documentation of object-oriented programs. Prerequisites: CS 121 and either MA 113, or 115. Prerequisites with concurrency: MA 171 or CS 217.

CS 307 - OBJECT ORIENT/PROG C++

Semester Hours: 3

Emphasis on principles of software engineering and object-oriented design. Practical experience using the standard C++ library, the standard template library, and design patterns. Introduction to and experience with graphical user interface applications. Prerequisite: CS 221.

CS 308 - ASSEMBLY LANGUAGE PROGRAMMING

Semester Hours: 3

Programming in a representative assembly language, including floating point programming. Overview of software systems: loaders, assemblers, compiler, interpreters, operating systems. Prerequisite: CS 309.

CS 309 - COMPUTER ORG & SWITCHNG THRY

Semester Hours: 3

Boolean algebra, Boolean function minimization techniques, design and analysis of combinational circuits, design and analysis of sequential circuits. Computer hardware organization, including CPU, instruction representation and executive. Programing in a representative assembly language, including floating point programming. Overview of software systems: loaders, assembler, compiler, interpreters, operating systems. A lab section must be scheduled for this course. Prerequisite: CS 214.

CS 309L - LABORATORY

Semester Hours: 0

Lecture/Lab. Students enrolling in CS 309L must enroll concurrently in CS 309.

CS 317 - INTRO DESIGN/ANALYSIS OF ALG

Semester Hours: 3

Introduction to complexity analysis of algorithms; emphasis on searching, sorting, finding spanning trees and shortest paths in graphs. Design techniques such as divide & conquer, dynamic programming, and backtracking. Introduction to problem classification; i.e. NP, intractable, and unsolvable. Prerequisites: MA 171, MA 244 and CS 214, and either CS 221 or CPE 212.

CS 321 - INTRO OBJECT-ORIENTED PROG JAV

Semester Hours: 3

Writing substantial object-oriented programs in Java, including design, documentation and testing. Advanced data structures (e.g., balanced trees, hash tables). Graphical interface programming using the Java abstract windowing toolkit. Comparison with other object-oriented languages, notably C++. Prerequisite: CS 221.

CS 325 - PROFESSIONAL & COMPUTG ETHICS

Semester Hours: 3

The course focuses on two major aspects of professionalism and computer ethics. The first concerns the role of values and normative principles in the practice of computing or more specifically software development. The second concerns the impacts of computer technologies on society. Prerequisite with concurrency: CS 321.

CS 330 - ARTFCL INTEL & GAME DEV

Semester Hours: 3

Techniques and concepts of artificial intelligence applied game development and production. Topics: path planning, decision making, tactics, and non-rational behaviors. Prerequisite: CS 221.

CS 347 - INTRO VIDEO GAME DESGN & PROGM

Semester Hours: 3

Provides students with an overview of the video game production process. Covers both theory and practice of game design and programming. Students produce 2D and 3D games from beginning to end using existing game engines. Hands-on focus and project-oriented. CS 143 is highly recommended. Prerequisite: CS 221.

CS 370 - INTRO COMPUTER NETWORKS

Semester Hours: 3

Introduction to the organization and operation of computer networks. Physical, Data Link, Network, Transport, and Application-layer protocols and algorithms; LAN and WAN systems; TCP/IP; wired and wireless organizations; security approaches. Prerequisite: CS 309.

CS 371 - MOBILE COMPUTING APP INCT & D

Semester Hours: 3

Considers application design for the mobile space with emphasis on mobile computer interfaces, including GUI for mobile environments, entertainment computing, and cross-platform development. This course is also a component of the Entertainment Computing Track. Prerequisites: CS 221 or CPE 212.

CS 390 - UNIX/LINUX PROGRAMMING

Semester Hours: 3

Design and development of systems and programs in the UNIX environment. File and terminal I/O, processes, inter-process communication, signals. Pattern searching, filters, pipes. Shell programming. Program and system development tools such as awk, C, make, sed, and yacc. Prerequisite: CS 221.

CS 391 - INT NETWORK ADMIN PRINC WINDOW

Semester Hours: 3

Network administration principles for installing and administrating Windows networks. OS installation, general network topologies and protocols, and Windows client-server architecture. User management, network file and security systems, and disaster-recovery are also covered. Prerequisite: CS 221.

CS 392 - INT NETWORK ADMIN PRINC FOR UN

Semester Hours: 3

Linux OS installation, network topologies and protocols, and UNIX client-server architecture. User management, network file and security systems, kernel configuration, print servers, domain name service, mail servers, Web and ftp servers are included. Design and implementation of a UNIX domain. Prerequisite: CS 390.

CS 396 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 397 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 398 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Must have approval of instructor.

CS 403 - INT FORML LANG AUTO THRY

Semester Hours: 3

Introduction to concepts and formalisms of formal languages and automata theory. Includes fundamental mathematical concepts, grammars and corresponding automata, and deterministic parsing of programming languages. Prerequisite: CS 317.

CS 413 - INTRO DIGITAL COMP ARCHITECTUR

Semester Hours: 3

Design of computer systems and subsystems, including register transfer, bus structure, timing and control. Pipelining, memory systems including cache and cache coherence, arithmetic, and I/O units. Interrupt handling. A lab section must be scheduled for this course. Prerequisite: CS 309.

CS 413L - LABORATORY

Semester Hours: 0

Lecture/Lab. Students enrolling in CS 413L must enroll concurrently in CS 413.

CS 424 - PRINCIPLES PROGRAMMING LANG

Semester Hours: 3

Comparison of principles and paradigms of modern programming languages. How different programming languages implement lexical, syntax, and semantic analysis, including the design of compilers. Formal grammars, BNF notation, parse trees, and abstract data types. Prerequisite: CS 317.

CS 430 - SURVEY ARTIFICIAL INTELLIGENCE

Semester Hours: 3

Survey of Artificial Intelligence (AI). AI crosses many disciplines, to make computational systems behave intelligently. This course provides a broad intro of AI sub-domains, including search, knowledge representation, reasoning, and machine learning. Prerequisite: CS 317.

CS 443 - INTRO TO MULTIMEDIA SYSTEMS

Semester Hours: 3

Multimedia authoring, color models for image and video, introduction to image and video compression, digital audio, multimedia networks, multimedia synchronization, multimedia retrieval. Taught as CS 443, 543. Prerequisite: CS 317.

CS 445 - INTRO COMPUTER GRAPHICS

Semester Hours: 3

Introduces underlying theory and mechanics of interactive computer graphics. Basic modeling, rasterization, 2D/3D transformations, and viewing. 3D graphics rudiments. Some hardware and historical perspectives. Many programs. Taught as CS 545; take only one! Prerequisites: CS 221 and MA 244 or CS 217.

CS 446 - ADVANCED COMPUTER GRAPHICS

Semester Hours: 3

High resolution 3D graphics. Advanced topics in viewing, vertex &, fragment processing, illumination & shading, and 3D modeling (curve & surface representation, texture mapping. Some coverage of solid modeling and color theory. Game production pipeline. Many programming projects. Taught as CS 446, 546. Prerequisites: CS 445 and at least junior standing.

CS 447 - GAME ENGINES & LEVEL DEVELOPMENT

Semester Hours: 3

Students produce fully functional games from beginning to end with team members. Focused on engineering development and art asset generation and management. Examines the design, development, and distribution of computer games using game engines for cross-platform implementation. Taught as CS 447, 547. Prerequisites: CS 330 and CS 445.

CS 453 - CLIENT/SERVER ARCHITECTURES

Semester Hours: 3

Client/server distributed computing. Web based applications. Students will practice concepts in programs involving leading edge technologies such as AJAX, RESTful and WS-* web services. Enterprise Java Beans, .Net. Prerequisites: CS 307 or CS 321. CS 370 is recommended.

CS 454 - INTRO TO CLOUD COMPUTING

Semester Hours: 3

Different cloud computing paradigms: IaaS, SaaS, PaaS. Open Source cloud software (for ex., OpenStack, CloudStack). RESTful interfaces, AWS interface. Cloud Security. Taught as CS 454, 554. Prerequisites: CS 307 or CS 321 and CS 370 or CPE 348.

CS 465 - NETWORK SECURITY

Semester Hours: 3

Introduction to Network Security: Fundamentals of Network Security and Cryptography. Examines security at different network layers, wireless security, firewalls, intrusion detection, and penetration analysis. Prerequisites: CS 121, and (CS 221 or CPE 221), and (CS 370 or CPE 348).

CS 480 - MOBILE DIGITAL FORENSICS

Semester Hours: 3

This course examines digital forensics of mobile devices such as smart phones and tablets in a law enforcement context. Mobile device characteristics that make forensics examinations difficult are discussed. Various forensic tools are critically examined with an eye toward improved tool development. Prerequisites: CS 413 or CPE 323.

CS 481 - MODELING & SIMULATION I

Semester Hours: 3

Discrete event simulation from a computer science perspective. Mathematics of probability distributions applied to simulation. Design, implementation, and application of discrete event simulation software. Application to computer and network system design. Prerequisites: CS 221 and (MA 385 or ISE 390).

CS 482 - MODELING & SIMULATION II

Semester Hours: 3

Advanced modeling methods, including Monte Carlo simulation, agent-based modeling, and mathematical modeling, from a Computer Science perspective. Emphasis on implementation, execution, and validation of working computer models using different modeling methods. Prerequisite: CS 481.

CS 485 - COMPUTER & SOFTWARE SECURITY

Semester Hours: 3

This course examines the issues related to security policies, models and mechanisms applicable to providing security for computer-based systems including operating systems, database management systems, and networks. Corequisite: CS 490.

CS 487 - DATABASE SYSTEMS

Semester Hours: 3

Basic concepts of database management systems with a focus on relational and object-oriented systems. Database design including semantic models and normalization. Design issues including query languages, internal storage, recovery, concurrency, security, integrity, and query optimization. Senior standing required.

CS 488 - INTRO TO BIG DATA COMPUTING

Semester Hours: 3

Provides big data concepts and characteristics; big data architectural concepts; big data ecosystem. Includes MapReduce framework and programming and coverage of big data applications. Prerequisite: CS 317.

CS 490 - INTRO TO OPERATING SYSTEMS

Semester Hours: 3

Principles of operating systems. Process management, memory management, I/O management, and file systems. Specific topics include process states, threads, CPU scheduling, concurrent processing, virtual memory. Contemporary operating systems will be used as examples. Prerequisite: CS 413.

CS 495 - SEL TOPICS:UNDERGRAD CS

Semester Hours: 3

Individual directed study under the supervision of an instructor. Instructor approval required.

CS 496 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 497 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 498 - SPECIAL TOPICS

Semester Hours: 3

Course offered by an instructor in a specialized area of computer science. Instructor approval required.

CS 499 - SR PROJ:TEAM SOFTWARE DESIGN

Semester Hours: 3

A combination of lectures on proven software engineering approaches, and team working sessions. Each student will participate in a sizable, complex, software development project based on a team approach. Each team will be required to provide oral and written documentation of their work. Prerequisite: CS 317.

Early Childhood Education (ECH)

ECH 306 - PRINCPLS OF EARLY CHILDHOOD ED

Semester Hours: 3

This introductory course will provide preservice early childhood educators with basic knowledge of the core principles and foundations of early childhood education. The course introduces students to the historical and sociocultural forces that have impacted the field along with contemporary early childhood programs and models, recent trends and issues, and theories of play. Admission to teacher education program required.

ECH 320 - DIFF INSTR FOR EARLY LEARNERS

Semester Hours: 3

An early childhood education curriculum course designed to provide practical knowledge for blending content areas to maximize children's learning and prepare teacher candidates to meet the needs of children across the curriculum. Focus is on the implementation of a curriculum designed to promote learning and development in the social, emotional, physical, language and cognitive domains. Additionally, the course will emphasize developmentally, culturally, and linguistically appropriate and effective teaching approaches to enhance each child's learning and development. Admission to teacher education program required.

ECH 330 - ASSESSMENT OF YOUNG LEARNERS

Semester Hours: 3

This course provides candidates with an understanding of the forms, functions, methods, and roles of assessment for planning and implementing effective early childhood programs for young children, ages birth to five, from diverse cultures and with varied learning needs. Candidates will explore both quantitative and qualitative approaches to evaluation and assessment. They will learn about technological adaptations to enhance the assessment process. Students will gain an understanding of appropriate strategies for conducting, reporting, and decision making related to specific functions of assessment. They will learn about assessment strategies necessary for second language learners and about adaptations for children with disabilities. They will use selected assessment strategies with young children in their field placements and are expected to become competent in the use of authentic assessment strategies to describe a child's learning strengths and instructional needs. Admission to teacher education program required.

ECH 340 - LANGUAGE, SPEECH & LITERACY DEV

Semester Hours: 3

This course provides an introductory examination of the development of language, speech, and literacy in young learners. Pragmatic syntactic, and phonological analyses of children's language and speech development are required. The connections of oral communication and written communication (literacy) are explored.

ECH 490 - EARLY CHILDHOOD INTERNSHIP

Semester Hours: 12

Observation, participation and teaching in at least two early childhood settings with children ranging from infancy to grade 3 (full time, 15 week semesters). Students will also attend campus-based seminars designed to meet specific needs of the interns. Admission to the teacher education program required.

Economics (ECN)

ECN 142 - PRINC OF MACROECONOMICS

Semester Hours: 3

How does our economy function? Why do we have periods of unemployment and inflation and what can we do about it? Economics is a way of thinking about the world, how to identify and focus on fundamental issues so we can understand our economy and how monetary and fiscal policy affects our lives. Prerequisite: any 100 level or 200 level MA course.

ECN 143 - PRINC OF MICROECONOMICS

Semester Hours: 3

How do markets coordinate our unlimited wants with our limited capacity to produce? We study producer and consumer choice in a variety of market structures, the social welfare implications inherent in market systems, and policies designed to correct those market failures. Prerequisite: Any 100 level or 200 level MA course.

ECN 340 - MACRO ECONOMIC ANALYSIS

Semester Hours: 3

A comprehensive study of the nation's economic system. How interdependent market systems determine income, consumption, saving, investment, interest, employment, and the aggregate price level. Determinants of economic growth and the effects of monetary and fiscal policy are central issues. Prerequisites: ECN 142 and ECN 143.

ECN 345 - MICRO ECONOMIC ANALYSIS

Semester Hours: 3

This course provides an informed perspective of, and ability to use, microeconomic theory. We develop the analytical tools needed to solve problems and focus on the logical foundations of these tools. Core topics include consumer behavior, production, exchange, markets, and game theory. Prerequisites: ECN 142 and ECN 143.

ECN 352 - MONEY AND BANKING

Semester Hours: 3

Organization, operation, and economic significance of monetary and banking systems. Fractional reserve banking systems, money creation, the Federal Reserve System, U.S. financial intermediaries. Introduction to monetary theory and international finance. Prerequisites: ECN 142 and ECN 143.

ECN 406 - SPORTS ECONOMICS

Semester Hours: 3

The course uses economic tools to study market outcomes in sports: the market for talent, labor relations, and the role of government. Specific topics include the demand for sports, sports franchises, and the theory of the firm, compensation of player talent, economics of stadiums, and sports media. Prerequisite: ECN 143.

ECN 411 - ECONOMICS INFORMATION TECH

Semester Hours: 3

Explores economic theories of consumer and firm behavior and strategy in the information technology industry with emphasis on applying formal tools of analysis in real-world contexts. Core topics include cost structures, non-competitive markets, network effects, and game theory. Prerequisites: ECN 143 and MA 120.

ECN 445 - APPLIED GAME THEORY

Semester Hours: 3

An introduction to game theory and its applications. Students will explore the use of games to understand strategic interactions and apply them to business and other real-world contexts. Prerequisite: ECN 143.

ECN 450 - INTERNATIONAL BUSINESS

Semester Hours: 3

Cross-discipline course combining theoretical and practical aspects of doing business in the global market. Three modules consisting of international management, marketing and economic/finance cover topics including the legal, socio-political environment, negotiations/diplomacy, import/export mechanics, international distribution, balance of payments, hedging, trade agreements (GATT), and international business strategy.

ECN 454 - INTERNATIONAL ECONOMICS

Semester Hours: 3

Behavior of foreign exchange rates under different monetary standards, methods of financing international trade, historical development of international financial institutions, current and proposed methods for fostering international trade, and problems of international liquidity. Prerequisite: FIN 301.

ECN 461 - ECONOMIC DEVELOPMENT

Semester Hours: 3

Understand economic development in the developing world. Examine economic transformation and social justice. Highlight domestic and international institutional, structural, and political sources of economic dynamism/lack thereof in the Global South. Prerequisites: Junior or Senior standing.

ECN 470 - SEMINAR IN ECONOMICS

Semester Hours: 3

Extensive readings and reports reflecting current developments and trends in economic theory and its application to the decision-making process in business and government.

ECN 475 - LABOR ECONOMICS

Semester Hours: 3

Economic analysis of labor markets; labor demand and labor supply at the market and individual level. Topics include individual decisions to supply labor, compensating wage differentials, human capital investment, discrimination in labor markets, pay and productivity, and the role of labor unions. Prerequisite: ECN 143.

ECN 480 - INTRO ECONOMETRICS

Semester Hours: 3

An introduction to the quantitative measurement and analysis of actual economic and business phenomena. Prerequisite: MSC 288 or equivalent statistics.

ECN 481 - RESEARCH PRACTICUM

Semester Hours: 3

The economics research practicum is designed to give students research experience. With the approval of one of the economics professors, a student teams up with a professor who mentors them through a research project. Prerequisites: ECN 340 and ECN 345.

ECN 490 - SPECIAL PROJECTS

Semester Hours: 3

Faculty guided Independent Study in an area of interest to the student and faculty member. Approval of department chair is required.

ECN 499 - AGENT-BASED COMPUTA ECON

Semester Hours: 3

Computational Economics introduces students to complex dynamic economic systems. Agent-based computational economics builds systems piece by piece - individual economic agents are constructed and placed in a virtual environment. This creates a virtual laboratory for economic experimentation. Prerequisites: ECN 340 and ECN 345.

Education (ED)

ED 060 - ENGLISH FOR ACADMC PURP PRGM

Semester Hours: 3

This course aims to help students achieve a greater level of success academically and professionally. Three types of evaluative and consultation tracks are offered: accent modification, oral communication, and literacy. A speech pathology model is used toward the accent modification and oral communication tracks, and a consultation approach utilizing a modified multi-sensory method focusing on comprehensive literacy is used toward the literacy track. By the end of the course, students typically exhibit a strong improvement in self-confidence and ability to proceed with their studies and professional dealings.

ED 115 - EFFECTIVE RDG & STUDY SKILLS

Semester Hours: 3

Developmental course focusing on acquisition of strategies to expand an individual's ability to read and study materials encountered in higher education. Effective reading and study strategies which incorporate reading, writing, and listening skills are taught and applied, using college texts and related readings.

ED 301 - INTRO TO EDUCATION PRACTICUM

Semester Hour: 1

Initial practicum experience designed to provide the opportunity to explore the role of the classroom teacher in today's diverse school settings. This experience is a prerequisite for admission to the Teacher Education Program.

ED 305 - FOUNDATIONS OF EDUCATION

Semester Hours: 3

Survey of social, cultural, historical, and philosophical foundations of education; interrelationships of society and education, effects of social change and influences of social-cultural values upon education; educational ideas and processes as they attempt to shape curricula. The perennial search for the meaning of education, perceived not merely as schooling, but as a process of enculturation and socialization. Prerequisites with concurrency: ED 301 and ED 308.

ED 307 - MULTICULTURAL FND EDUCATION

Semester Hours: 3

This course will provide students with an understanding of selected philosophical, historical, social, cultural, political, and economic questions and influences on the development of educational policies and practices. Through an examination of constructs such as race, ethnicity, social class, gender, sexual orientation, and religious affiliation, students will develop an understanding of the connections between identity, difference, power and privilege and the role(s) schools play in perpetuating or ending discriminatory practices.

ED 308 - EDUCATIONAL PSYCHOLOGY

Semester Hours: 3

Psychological principles basic to an understanding of the learner, the learning process, and the learning situation. Intensive field experience required.

ED 309 - CLASSROOM & BEHAVIOR MGMT

Semester Hours: 3

This course focuses on instructional options that learners need in order to be successful. It takes a broad approach to classroom and behavior management that is grounded in both theory and reflective practice. Content will emphasize the study and implementation of a variety of classroom and behavior management strategies that are necessary for working with diverse populations. Intensive field experience in an assigned public school required. Prerequisites: Admission to the Teacher Education Program.

ED 310 - TCHNG THE ARTS IN ELEM SCHOOLS

Semester Hours: 2-3

This course covers multiple aspects of fine arts education in elementary education including the use of content, functions, and achievements of the performing arts (dance, music, theatre) and visual arts as primary media for communication, inquiry, and engagement among elementary students.

ED 315 - EDUC EVALUATION & MEASUREMENT

Semester Hours: 3

This course is designed to help prospective teachers use and construct a range of assessments that will help them plan and teach more effectively, improve learning, and meet state and national standards. The class will focus on more traditional assessment issues such as validity and reliability, as well as the alternative assessments that are likely used in today's classrooms. Furthermore, contextual issues such as educational accountability testing, the No Child Left Behind Act, and teacher testing and evaluation (PEPE) will be explored. Intensive field experience required. Prerequisites: Taken concurrently with ED 373, 374, 405. Admission to the Teacher Education Program or permission of the chair.

ED 350 - TECHNOLOGY IN CLASSROOM

Semester Hours: 3

Introduces prospective teachers to current educational technology. Designed as a laboratory course providing extensive hands-on experiences with microcomputers and other emerging technology. Emphasis is on enabling the student to effectively integrate technology into instructional settings. May be taken prior to entering Teacher Education Program.

ED 360 - EARLY CHILDHOOD EDUC PRACTICUM

Semester Hours: 3

Placement in a state-approved or NAEYC-accredited pre-kindergarten or kindergarten class. Includes a weekly one-hour seminar with a faculty member. Prerequisites: Admission to the Teacher Education Program.

ED 371 - TCHG ELEM LANGUAGE ARTS

Semester Hours: 3

Introduction to current practices in language arts instruction with emphasis on the development of an integrated curriculum using children's literature as a foundation. Includes appropriate techniques for the teaching of grammar, spelling, and handwriting. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 372 - TCHG ELEM SOCIAL STUDIES

Semester Hours: 3

Teaching social studies in grades K-6. Helping beginner teachers acquire background skills in organizing and teaching units of work. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 373 - TCHG NATURL/HLTH SCIENCE

Semester Hours: 3

Integrates concepts from reflective practice with elementary science teaching. Opportunity to refine teaching skills in the planning, implementation, and evaluation of science lessons and units of instruction. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 374 - TCHG ELEM MATHEMATICS

Semester Hours: 3

Overview of the mathematics concepts and skills taught in grades K-6 with an emphasis on the principles, methods, and materials used in the teaching and evaluation of elementary school mathematics. Focuses on the attitudes and behaviors of students and teachers in the actual planning and implementation of mathematics instruction for an elementary school classroom. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 375 - TCHG READING IN PRIMARY GRADES

Semester Hours: 3

An introduction to the basic principles of literacy instruction in culturally and linguistically diverse primary grade classrooms, including theoretical bases for instruction, methods of instruction and organization, developmentally appropriate strategies and materials, and assessment of children's literacy needs. Class activities will include mini-lessons, discussions, group activities, and presentations. An intensive school-based practicum in grades PreK-2 is required.

ED 400 - SPECIAL TOPICS-INTERNSHIP

Semester Hours: 3

Innovative internship focused on working with students with disabilities. Observations, participation, and direct instruction and teaching in a middle or high school setting for a prescribed time.

ED 401 - FNDS OF REFLECTIVE TEACHING

Semester Hours: 3

This diversity elective is designed to develop reflective practitioners, who study teaching and student learning in an effort to improve teaching practices and also meet certification requirements. The course will use various lenses of professional teacher noticing to select and discuss evidence of effective teaching. Course topics include edTPA rubrics, lesson planning, video teaching episode analysis, student assessments and feedback, academic language for describing teaching, and professional writing about teaching.

ED 402 - SPECIAL TOPICS IN EDUCATION

Semester Hours: 3

Introduces students to current issues and trends within educational practice, policy, and theory through a specific lens. Provides opportunities for students to investigate issues of teaching and learning within the broader social/cultural vantage basic exploration of current research and debate within education. Topic may vary with each offering.

ED 405 - RDG STRATEGIES INTERMED GRADES

Semester Hours: 3

This course provides an in-depth study in and application of the process of reading and reading instruction, theoretical approaches, instructional strategies, classroom organization, and the formal/informal assessment of reading in intermediate grades. This course is required of all elementary education majors and secondary education candidates who are pursuing a middle school endorsement. Intensive field experience required.

Prerequisites: Admission to the Teacher Education Program.

ED 408 - TCHG READING/CONTENT AREA

Semester Hours: 3

Provides knowledge of certain basic developmental and remedial reading skills, practices, and concepts. Extends those learned in previous, reading courses and shows how to apply fundamental skills and knowledge to the classroom. This will include adapting fundamentals of reading instruction to the various subject matter areas (i.e., the sciences, social studies, English, etc.). Survey of special reading programs such as remedial reading and reading instruction as practiced in special education. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

ED 410 - FOUNDATIONS EDUC EVALUAT

Semester Hours: 3

Measurement process with emphasis on its relationship to problems of educational evaluation. Evaluation as an integral part of overall educational planning in addition to its use in measurement and evaluation of academic achievement. Prerequisites: Admission to the Teacher Education Program.

ED 413 - CHILDREN'S & ADOLESCENT LIT

Semester Hours: 3

Course content includes the study of various genres of children's and adolescent literature and their relationship to beginning reading, enhancement of reading comprehension, and intervention instruction in the various content areas. Intensive field experience required. Same as EH 413. Prerequisites: Admission to the Teacher Education Program.

ED 421 - SECNDRY ELA INSTR WRIT TO READ

Semester Hours: 2-3

Candidates explore the ways they can use specific writing-to-learn activities to enhance their students' capacity to understand a variety of complex texts. Candidates will learn techniques for engaging students in the questioning, inference-making, syntactical pattern recognition, and meaning-making of both fiction and non-fiction works.

ED 422 - MIDDLE & SECD SCH MATH METHODS

Semester Hours: 2-3

This course is part one in a series of two courses that are designed for teacher candidates who are pursuing teaching certification in middle and/or secondary Mathematics. This methods course provides background for middle school and secondary teaching from the perspective of theory, research, and practice.

ED 423 - TCHNG SCIENCE MID & SEC SCH I

Semester Hours: 2-3

This course will focus on how secondary students learn Science. Candidates will learn how to develop and design developmentally appropriate lessons in which their students are able to make observations, examine relationships, notice patterns, and make inferences, while confronting naive misconceptions. Candidates will discuss the nature of science (NOS).

ED 424 - TCHNG SOC STUD MID & SEC SCH I

Semester Hours: 2-3

This course teaches research-based techniques and strategies employed by Social Studies teachers at the secondary levels. As well as learning theoretical foundations and the goal of social science instruction (citizenship skills), students will learn pedagogic skills, instructional strategies, and modes of reasoning unique to the social studies classroom.

ED 425 - METHODS OF TEACHG WORLD LANGUA

Semester Hours: 2-3

This course is designed to provide undergraduate level Foreign Language majors with the theory, tools (i.e. authentic media and technology), and techniques for teaching middle and secondary students. The focus of the course is primarily, though not exclusively, on designing lessons that allow for maximum student participation and control.

ED 431 - SEC ELA METHD: READING TO WRIT

Semester Hours: 2-3

In this course, candidates will explore the ways they can use specific reading activities to enhance their students' ability to express themselves in multiple registers and forms of discourse. Candidates will learn techniques for engaging students in the process of developing and expressing their ideas while demonstrating an improved command of the grammatical, syntactical, and discursive elements of language.

ED 432 - TCH REASON/PROOF SEC MATH

Semester Hours: 2-3

This methods course provides background for middle school and secondary teaching from the perspective of theory, research, and practice. It is designed to provide an introduction to and practice ways in which to engage students in mathematical reasoning and proof.

ED 433 - TEACH SC MID & SEC SCHOOL II

Semester Hours: 2-3

Students will discuss the status of Science education in our nation's schools, and the need for implementing research-based strategies in the classroom using the 5E learning cycle as framework.

ED 434 - TCHG SOC ST MID & SEC SCHLS II

Semester Hours: 2-3

This methods course is designed to study effective techniques and strategies employed by Social Studies teachers at the middle and secondary levels. As well as learning theoretical foundations in social studies education, students will learn pedagogic skills, instructional strategies, and modes of reasoning unique to the social studies classroom.

ED 435 - DIFF INSTR IN WORLD LANGUAGES

Semester Hours: 2-3

This course is designed to provide undergraduate level Foreign Language majors with the theory, tools (i.e. authentic media and technology), and techniques for teaching middle and secondary students. The focus of the course is primarily, though not exclusively, on designing lessons that allow for maximum student participation through and understanding of student development.

ED 490 - EARLY CHILDHOOD INTERNSHIP

Semester Hours: 12

ED 493 - ELEMENTARY SCHOOL INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in elementary school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

ED 497 - HIGH SCHOOL INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in middle/high school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

ED 499 - P-12 INTERNSHIP

Semester Hours: 12

Observation, participation, and teaching in elementary and middle/high school (full time, 15 week semester). Students will also attend campus-based seminars designed to meet specific needs of the interns.

Education Collaborative (EDC)

EDC 301 - TCHG THE EXCEPTIONAL CHILD

Semester Hours: 3

Examines special education laws and methodology used in teaching special education students. Focus is primarily on those students with mild learning disabilities. Also examines requirements needed in the regular classroom for special teachers. Intensive field experience required.

EDC 302 - INTRO LOW INCIDENCE POPULATION

Semester Hours: 3

Students will learn about low incidence disabilities through reading, research, discussion, and the integration of specific learning strategies during class activities. Students are expected to complete a case study/practicum with a disabled student in addition to 15 hours of observation in classrooms for low incidence exceptional students. Intensive field experience required.

EDC 311 - INSTR STRATEGIES INCLUSIVE CLR

Semester Hours: 3

Students learn about low incidence disabilities through reading, research, discussion, and the integration of specific learning strategies during class activities. Students are expected to complete a case study/practicum with a disabled student in addition to 15 hours of observation in classrooms for low incidence exceptional students. Intensive field experience required.

EDC 316 - DIFFER INSTR FOR ECSE

Semester Hours: 3

This course provides practical strategies to maximize learning for all young learners (birth to 8 years old) with a variety of disabilities. Students will learn to utilize the principles of universal design for learning and differentiated instruction to create structured classrooms and lessons that meet the individual needs of young learners with special needs. This will include learning to select, implement, and evaluate lesson accommodations and modifications for students with exceptional needs.

EDC 321 - COLLAB CONSU(PARENT-TCHR-TEAM)

Semester Hours: 3

This class focuses on the description and rationale for collaboration, including communication skills, group work, problem solving, and co-teaching. Each student will participate as a member of a collaborative team during the practicum. This course will also provide an examination of selected school district issues involving collaboration within traditional K-12 educational settings. Intensive field experience required. Prerequisites: Admission to the Teacher Education Program.

EDC 331 - CRITICAL ISSUES IN SPEC EDUC

Semester Hours: 3

Provides an in-depth discussion and evaluation of current issues in special education such as litigation, legislation, personnel preparation, and research. School-based practicum required. Intensive field experience required. Prerequisites: Admission to The Teacher Education Program.

EDC 341 - ASSESS/PLN TRANSITION K-12 STU

Semester Hours: 3

Teacher candidates will develop the skills necessary for transitional planning, including administering cognitive, social, and functional assessments. Results of assessments will be interpreted and utilized to plan transitions from one placement to another, to inform instruction in regular, inclusive and self-contained classrooms, and to develop Individualized Education Plans (IEPs) for eligible students. Field work is required. Prerequisites: Admission to the Teacher Education Program.

EDC 351 - BEHAVIOR ANALY & INTERVENTION

Semester Hours: 3

This course focuses on the concepts of applied behavior analysis and how to implement those concepts in classrooms and other settings. Students learn how to conduct a functional behavior assessment and design, implement, and evaluate a behavioral-change project with an appropriate subject in a public school setting. Intensive field work required. Prerequisites: Admission to the Teacher Education Program.

EDC 361 - ECSE PRACTICUM

Semester Hours: 3

A three-hour credit course in a state-approved or NAEYC-accredited early childhood education setting that includes children with developmental delays or diagnosed disabilities. It includes a weekly one hour seminar with a faculty member. Admission to Teacher Education Program required.

Electrical Engineering (EE)

EE 202 - INTRO DIGITAL LOGIC DSGN

Semester Hours: 3

Engineering approaches to design and analysis of digital logic circuits. Boolean algebra, Karnaugh maps, design using Hardware Description Languages, digital computer building blocks, standard logic (SSI MSI) vs. programmable logic (PLD, PGA0, finite state machine design). Prerequisites: EGR 101.

EE 203 - DIGITAL LOGIC DESIGN LAB

Semester Hour: 1

Experiments in applying Boolean logic concepts to digital design. The course introduces students to small-scale prototyping and simulation techniques that are used to implement and evaluate digital combinational and sequential logic designs. Prerequisite: EE 202.

EE 213 - ELECTRICAL CIRCUIT ANALYSIS I

Semester Hours: 3

Basic concepts of DC and AC circuit theory and analysis. Includes both DC and AC power. Prerequisites: MA 201 and PH 112 both w/concurrency.

EE 223 - DES & MOD ELEC CIR & SYS

Semester Hours: 3

Electrical circuit and systems design and modeling. Includes using modern tools (i.e. Matlab and simulink) to design and model circuits. Introduces and reinforces engineering design principles. Prerequisites: EE 202 & EE 213.

EE 299 - EE MENTORING I

Semester Hours: 0

Sophomore-level mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: CPE 211.

EE 307 - ELECTRICITY & MAGNETISM

Semester Hours: 3

Basic concepts of electrostatics, electric potential theory, electric fields and currents, fields of moving charge, magnetic fields, time varying electromagnetic fields and Maxwell's equations. Prerequisites: EE 213, MA 238 and MA 244.

EE 308 - ELECTROMAGNETIC ENGR

Semester Hours: 3

Review of Maxwell's equations, uniform plane waves in different types of media, reflection, transmission of uniform plane waves, transmission lines, waveguides, and antennas. Prerequisites: EE 307.

EE 310 - SOLID STATE FUNDAMENTALS

Semester Hours: 3

Introduction to semiconductors including crystalline structure, energy bands and charge carriers, excess carriers, and thermal properties. Introduction to semiconductor junctions, the bipolar junction transistor, and the MOSFET. Prerequisites: PH 113 and MA 238.

EE 315 - INTRO ELECTRONIC ANAL & DESIGN

Semester Hours: 3

Properties of diode, bipolar transistors, FET and operational amplifiers, analysis of DC and AC small-signal operation and circuit models for the design and analysis of electronic circuits. Prerequisite: EE 213.

EE 316 - ELE CIRCUITS & ELTRNC DSGN LAB

Semester Hour: 1

Electric circuit experiments including first and second order DC circuits, maximum power transfer, impedance measurements, transformers, measurement of electronic device characteristics, and design and testing of operational amplifier circuits and single-stage amplifiers using MOSFETs and BJTs. Prerequisite: EE 315.

EE 382 - ANALY METH CONTINUOUS TIME SYS

Semester Hours: 3

Fourier Series, Fourier and Laplace transforms with emphasis on their physical interpretation. System representation by transfer functions and impulse response functions, convolution integral, transient response, and modeling and simulation. Prerequisites: EE 213, MA 238, and MA 244.

EE 383 - ANALY METH MULTIVARIABLE

Semester Hours: 3

Discrete time signals and systems, sampling techniques, Z and discrete Fourier transforms, multivariable systems. Introduction to digital signal processing. Prerequisite: EE 382.

EE 384 - DIG SIGNAL PROCESS LAB

Semester Hour: 1

Design and programming of digital processing algorithms such as DFT, FFT, IIR, and FIR filtering. Prerequisites: EE 383 or CPE 381.

EE 385 - RANDOM SIGNALS & NOISE

Semester Hours: 3

Random variables and probabilities description of signals. Introduction to random processes such as autocorrelations, cross correlation, and power spectral density, Noise analysis of thermal, shot, white, and colored. Response of electrical systems to random inputs. Prerequisites: EE 382 or CPE 381.

EE 386 - INTRO CONTROL/ROBOTIC SYS

Semester Hours: 3

Theory and analytical techniques for modeling, analysis and control of dynamical systems. Transfer functions, block-diagrams, frequency response, stability criteria, series and feedback controller design, and digital control. Introduction to the dynamic analysis and control of robotic systems. Prerequisites: EE 382 or CPE 381.

EE 399 - EE MENTORING II

Semester Hours: 0

Junior level mentoring and advising from engineering faculty and staff. Prerequisites: EE 299 and EE 223.

EE 401 - REAL-TIME DIGITAL SIGNAL PROC

Semester Hours: 3

Introduction to digital signal processor architectures, applications, assembly language programming, and development tools for designing and implementing DSP systems. Prerequisites: EE 383 or CPE 381.

EE 410 - SELECTED TOPICS/ECE

Semester Hours: 1-6

Special topics in Electrical Engineering.

EE 410L - SELECTED TOPIC LABORATORY

Semester Hours: 0

EE 411 - ELECTRIC POWER SYSTEM

Semester Hours: 3

Power generation, transmission and distribution. Three-phase circuits, conventional and renewable power systems, transformers and motors, protection and control. Prerequisite: EE 382.

EE 412 - SR DSGN PROJ ELECT ENGR

Semester Hours: 1-6

Individual design project under the direction of an ECE faculty member. Prerequisites: Senior standing and permission of instructor.

EE 414 - ANALOG & DIGITAL FILTER DESIGN

Semester Hours: 3

Analog filter design via Butterworth, Chebyshev, and elliptical approximation. Active filter design using operational amplifiers. Digital filter design methods. Prerequisites: EE 315 and EE 383.

EE 416 - ELECTRONICS II

Semester Hours: 3

Integrated circuits and micro-devices related to multistage amplifiers, oscillators, design specifications, operational amplifiers, and microunits. Computer simulation. Prerequisites: EE 313 and EE 315.

EE 417 - PHOTOVOLTAIC FUNDAMENTALS

Semester Hours: 3

The course will cover fundamental device physics for solar cell operation, reliability issues in panel and module design, partial shading problems on PV module, and cost and efficiency analysis. Prerequisite: EE 310.

EE 421 - ANTENNA DESIGN & ANALYSIS

Semester Hours: 3

Covers analytical methods and mathematical foundations for solving antenna radiation problems, based on Maxwell's equations. Different types of antennas will be studied, including wire, phased array, aperture, microstrip, and reflector antennas. Prerequisite: EE 308.

EE 423 - COMM SYS & SIMULATION W/ LAB

Semester Hours: 3

Modern test equipment and computer-based simulation methods are used to conduct experiments in the area of communication systems. Includes experiments to investigate signal modulation, demodulation, and filters. (Same as EE 523) Prerequisite: EE 426.

EE 424 - INTRO DATA COMMUN NETWORKS

Semester Hours: 3

Overview of historic development of modern telephone and data communication systems, system architecture, standards, broadband switching systems, modems, protocols, personal and mobile communications, digital modulation techniques. (Same as EE 504) Prerequisites: EE 383 and EE 385.

EE 426 - COMMUNICATION THEORY

Semester Hours: 3

Signals and systems including the Hilbert transform, cross and auto correlation, power density spectrum, and the Wiener-Khintchine theorem. Filter design. Linear and nonlinear modulation and demodulation methods and circuits. Phase lock and frequency feedback techniques. (Same as EE 506). Prerequisites: EE 382 or CPE 381.

EE 436 - DIGITAL ELECTRONICS

Semester Hours: 3

Introduction to digital electronics. The Metal-Oxide-Semiconductor (MOS) transistor. MOS inverters and gate circuits. Bipolar junction transistors, ECL inverters, and bipolar digital gates. Semiconductor Memories. (Same as EE 516) Prerequisites: EE 202 and EE 315.

EE 437 - ELECTRONICS MANUF PROCESSES

Semester Hours: 3

Concepts, facilities, and technology utilized in the manufacture of electronic components and products. Includes printed wiring board fabrication and component mounting methods, automation, quality and reliability, product testing, and economic issues. Prerequisite: Senior standing. (Same as ISE 437 and EE 537).

EE 451 - OPTOELECTRONICS

Semester Hours: 3

Basic concepts for understanding electro-optic devices and systems. Blackbody radiation, light sources, quantum and thermal detectors, noise in detectors, optical heterodyning, acousto-optic, magneto-optic, and electro-optic modulation. (Same as OPE 451) Prerequisites: EE 307 and EE 315.

EE 453 - LASER SYSTEMS

Semester Hours: 3

Spontaneous and stimulated emission, population inversion, optical resonators, three- and four-level systems, Q-switching and mode-locking, semiconductor lasers, integrated optic waveguides and couplers, scanning systems, high-power industrial application. Prerequisite: EE 307.

EE 454 - OPTICAL FIBER COMMUNICA

Semester Hours: 3

Introduction to optical fibers and their transmission characteristics, optical fiber measurements, sources and detectors, noise considerations for digital and analog communication, and optical fiber systems. (Same as OPE 454) Prerequisites: (EE 307 or PH 432) and (EE 382 or CPE 381).

EE 486 - INTRO MODERN CONTROL SYSTEMS

Semester Hours: 3

Modern control theory including techniques for modeling, analysis and control of MIMO dynamic systems, state-variable feedback control design and state observers. Kalman-filtering. Fundamentals of nonlinear systems analysis and discrete-time system modeling, analysis and control. Prerequisites: EE 386.

EE 494 - EE DESIGN PROJECTS

Semester Hours: 3

Senior Capstone Course. Design, simulation, and construction of technical projects. Review of legal, economic, and ethical issues. Students work as individuals or teams to design, implement, test, and evaluate their projects. Oral presentation and written reports are required. Senior Standing. Prerequisites: Senior Standing and ISE 321, EE 308, EE 310, EE 313, EE 315, CPE 323, EE 383, EE 386 and EE 399.

EE 497 - ELEC ENGR INTERNSHIP

Semester Hours: 1-3

Active involvement in an engineering project in an engineering enterprise, professional organization, or government agency that has particular interest and relevance in the student. Prerequisites: Junior or Senior standing and Approval of Engineering Faculty Advisor.

Engineering (EGR)

EGR 100 - ENGINEERING MATHEMATICS

Semester Hours: 3

Centered around disciplinary engineering applications, this course will demonstrate the role of essential mathematics in engineering at a freshman level. These include algebraic manipulation of engineering equations, trigonometry, vectors and complex numbers, sinusoids and harmonic signals, systems of equations and matrices, differentiation, integration and differential equations. All math topics will be presented within the context of an engineering application, and reinforced through extensive examples of their use in the core engineering courses.

EGR 101 - INTRO COMPUTING ENGINEERS

Semester Hours: 3

Introduces students to the fundamental principles of programming for solving engineering problems. It familiarizes students with the process of computational thinking and the translation of real-life engineering to computational problems. Languages may include Matlab, Python, and others as appropriate. Prerequisites: MA 113 w/concurrency or Math placement level 2000.

EGR 299 - ENGINEERING MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite: ENG 101 or EGR 101 and MA 201 w/concurrency.

EGR 399 - ENGINEERING MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: EGR 299 and (CE 272 or MAE 272 or CHE 244 or CPE 212) or with concurrency (EE 382 or ISE 391).

English (EH)

EH 101 - COLLEGE WRITING I

Semester Hours: 3

Introduction to academic writing, critical reading, and rhetorical knowledge.

EH 101L - STUDIO FOR COLLEGE WRITING I

Semester Hours: 0

A writing workshop/lab to be taken concurrently with EH 101S. The course provides supplementary instruction and practice in written English language skills, editing techniques, writing strategies (brainstorming, drafting, revising editing) as well as critical reading, skimming, scanning, inferring) for students needing additional support. Students must pass EH 101L to pass EH 101S.

EH 101S - COLLEGE WRITING I W/STUDIO

Semester Hours: 3

Introduction to academic writing, critical reading, and rhetorical knowledge. For students whose preparation suggests a need for intensive support as they progress through the composition sequence. Requires concurrent registration in studio section 101L.

EH 102 - COLLEGE WRITING II

Semester Hours: 3

Intermediate academic writing. Focuses on research questions and techniques, as well as critical engagement with published and student texts.

Prerequisite: EH 101 or 101S with minimum grade of C-.

EH 103 - ACCELERATED COLLEGE WRITING

Semester Hours: 3

Accelerated introduction to academic writing, critical reading, and research questions. Focuses on research questions and techniques, as well as critical engagement with published and student texts. Prerequisites: minimum high school GPA 3.5; minimum 26 on ACT or minimum 1170 on SAT.

EH 105 - HONORS ENGLISH SEMINAR

Semester Hours: 3

Interpretive and comparative readings in texts of enduring intellectual, esthetic, and ethical importance; critical and analytic writing and research projects. Grading Scale: A, B, C, D, F. Minimum grade of C- required to advance to 200-level English classes. Prerequisites: Formal admission to the University Honors College.

EH 207 - READINGS LITERATURE/CULTURE I

Semester Hours: 3

Critical analysis of texts from ancient times through the Age of Discovery. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 208 - READINGS LITERATURE/CULTURE 2

Semester Hours: 3

Critical analysis of texts from the Age of Discovery through the present. The course introduces students to the methods of literary study through an examination of works in their social, historical, and philosophical contexts. Prerequisite: EH 102 or EH 103 with minimum grade of C- or EH 105.

EH 209 - HONORS SEM READINGS LIT/CUL I

Semester Hours: 3

Critical analysis of texts from ancient times through the Age of Discovery. The course offers an in-depth examination of important works and their cultural contexts in a seminar format. Prerequisite: EH 102 or EH 103 or EH 105, and Honors College Student.

EH 210 - HONORS SEM READINGS LIT/CUL 2

Semester Hours: 3

Critical analysis of texts from the Age of Discovery through the present. The course offers an in-depth examination of important works and their cultural contexts in a seminar format. Prerequisite: EH 102 or EH 103 or EH 105, and Honors College Student.

EH 211 - INTRO CREATIVE WRITING

Semester Hours: 3

Students will discuss contemporary stories/poems and will participate in workshops, where their own poetry and fiction is examined and critiqued by the class and instructor. The class culminates in two revision portfolios (one fiction and one poetry). Prerequisite: EH 102 or EH 103 or EH 105.

EH 241 - LITERATURE WITHOUT BORDERS

Semester Hours: 3

Reading, discussing, analyzing, and writing about literature without borders (might include global perspectives, transnational literature, travel memoirs, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 242 - MYTHOLOGY

Semester Hours: 3

Reading, discussing, analyzing, and writing about the topic of mythology (might include classical and/or modern myths, non-western traditions, folktales, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisite: EH 102 or EH 103 or EH 105.

EH 243 - PROTEST LITERATURE

Semester Hours: 3

Reading, discussing, analyzing, and writing about protest literature (might include transgressive literature, literature that deals with social problems, satire, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 244 - HEROES &/OR MONSTERS

Semester Hours: 3

Reading, discussing, analyzing, and writing about heroes and/or monsters (might include heroes, antiheroes, monster literature, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 245 - LOVE &/OR ROMANCE

Semester Hours: 3

Reading, discussing, analyzing, and writing about the topic of love and/or romance (might include love and its challenges, platonic love, the absence of love, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 246 - SPECULATIVE REALITIES

Semester Hours: 3

Reading, discussing, analyzing, and writing about speculative realities (might include utopia/dystopia, science fiction, alternate realities, etc.) This course covers multiple literary genres, at least two historical periods, diverse authors, and explores various cultural contexts; this course is designed for students of all majors. Prerequisites: EH 102 or EH 103 or EH 105 with minimum grade of C-.

EH 260 - INTRO TO WRITING MAJOR

Semester Hours: 2

An introduction to the Writing B.A., this course will overview the field of Writing Studies, its methods of inquiry, and the interdisciplinary nature of its rhetoric, composition and language/literacy influences. Prerequisite: EH 102 or EH 103 or EH 105.

EH 300 - STRATEGIES FOR BUSINESS WRITING

Semester Hours: 3

Practical business writing with emphasis on rhetoric, organization, and research. Open to all students in the College of Business or by permission of the Department of English. Qualifies as elective in the English major. Does not count toward English minor. Junior standing required. Prerequisite: EH 102 or EH 103 or EH 105.

EH 301 - TECHNICAL WRITING

Semester Hours: 3

Practical writing, especially technical or scientific reports and proposals, with emphasis on organization, research, and presentation. Qualifies as elective in English major. Does not count toward English minor except Cognate Studies in Technical Writing. Prerequisite: junior standing and EH 102 or EH 103 or EH 105.

EH 302 - TECHNICAL EDITING

Semester Hours: 4

Clarifying, expanding, reducing, and rewriting technical reports and other documents created by others. Emphasis on elements of style and usage, revision, proofreading, and application of rhetorical techniques to the work of engineers, scientists, and technicians. Includes lab emphasizing software skills useful for technical editing. Qualifies as elective in English major. Does not count toward English minor without special approval. Prerequisite: EH 301.

EH 303 - PRAC & RSRCH IN TECH COMM

Semester Hours: 3

Provides an overview of technical communication as a career field and as a research field. Introduces students to best practices and career options in technical communication and to the research methods used by technical communication practitioners and researchers. Does not count toward English minor without special approval. Prerequisite: EH 301.

EH 305 - INTRO TO LITERARY STUDIES

Semester Hours: 3

Designed as an introduction to the study of literature, this course will address the history of textual interpretation, the practice of literary analysis, the theoretical debates central to literary studies, and the basic research and writing skills required for literary criticism. Prerequisites: EH 207, EH 208, EH 209, EH 210, or EH 242.

EH 320 - PRACTICUM IN WRITING

Semester Hours: 3

Writing and editing under the supervision of professionals. Enrollment requires advance planning. Does not count toward English minor without special approval. Prerequisite: EH 301 and EH 302.

EH 335 - SURVEY BRITISH LITERATURE

Semester Hours: 3

Writers, genres, and periods from Beowulf through the present. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 336 - SURVEY AMERICAN LITERATURE

Semester Hours: 3

Writers, genres, and periods from the Age of Discovery through the present. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 340 - ACADEMIC WRITING

Semester Hours: 3

Advanced academic writing designed to prepare students for the writing, research, and publishing requirements of their field of study. Prerequisite: EH 102 or EH 103 or EH 105.

EH 400 - COMPOSITION STUDIES FOR TCHERS

Semester Hours: 3

Introduction to effective strategies for the teaching of writing. Students will report on their own writing pedagogy as a result of reading and analyzing a range of writing research related to strategies of assigning, responding and assessing writing. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 401 - THEORY & PRACTICE IN TECH COMM

Semester Hours: 3

Explores the relationships between common practices in technical communication and the theories that legitimize those practices. Introduces students to research and theories about fundamental issues in technical communication which may then become the basis for further graduate study in technical communication. Prerequisite: EH 301 or CM 301.

EH 403 - LITERARY CRITICISM & THEORY

Semester Hours: 3

Major texts and approaches from Plato to the present. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 406 - FEMINISM AND COMPOSITION

Semester Hours: 3

Explores issues of gender in writing: postmodern feminism, feminist theories and research, gender and forms of writing, and finally, gender, teaching and identity. Students will investigate and analyze composition scholarship through reading, writing, and collaborative inquiry. Prerequisite: EH 207, EH 208, EH 209, EH 201 or EH 242.

EH 408 - HISTORY OF ENGLISH LANGUAGE

Semester Hours: 3

History of the emergence and development of English from the pre-Anglo-Saxon period to the present. Emphasis on cultural contexts. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 409 - PROPOSAL WRITING

Semester Hours: 3

This course teaches effective strategies for writing successful proposals in business, academic, research, and non-profit contexts. Senior standing required.

EH 410 - FICTION WRITING

Semester Hours: 3

Practice in writing fiction from conception to revision. Students will read and write contemporary literary fiction. Student work will be commented on and critiqued in regular class workshops. The class culminates in a revision portfolio. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 411 - POETRY WRITING

Semester Hours: 3

Practice in writing poetry from conception to revision. Students will read and write contemporary poetry. Student work will be commented on and critiqued in regular class workshops. The class culminates in a revision portfolio. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 412 - SPEC STUDIES CREATIVE WRITING

Semester Hours: 3

Topics in creative writing, professional writing, or other advanced writing announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 413 - CHILDREN'S & ADOLESCENT LIT

Semester Hours: 3

Course content will include the study of various genres of children's and adolescent literature and their relationship to beginning reading, enhancement of reading comprehension, and intervention instruction in the various content areas. Prerequisite: EH 207 and EH 208 or EH 209 and 210.

EH 414 - CREATIVE NONFICTION WRITING

Semester Hours: 3

This composition class introduces students to the genre of creative non-fiction via revising, peer responding, prose modeling, and conferencing; and developing expertise in rhetorical writing concepts. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 415 - ANGLOPHONE/POSTCOLONIAL LIT

Semester Hours: 3

An introduction to major concepts, figures, and works with emphasis upon historical and cultural context. Specific focus will vary. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 418 - REP TEXTS-WOMEN WRITERS

Semester Hours: 3

Focus on women's contribution to the literary tradition. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 420 - WRITING FOR TECH PROFESSIONALS

Semester Hours: 3

Teaches students in disciplines such as science, engineering, nursing, and user experience to improve their writing skills and produce important academic and professional documents. Junior standing required.

EH 422 - STUDIES IN THE NOVEL

Semester Hours: 3

Focuses on varying topics in the novel with special attention to form. Texts may be drawn from diverse national and cultural origins. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 423 - CONTEMPORARY BRITISH LITERATURE

Semester Hours: 3

Major works after 1945 with emphasis on historical and cultural contexts. Specific focus will vary. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 424 - POETRY AND POETICS

Semester Hours: 3

An attempt to answer (at least provisionally) the questions "What is a poem?" and "What is poetry?". How to read a poem closely and carefully, with attention to theory, history of genres, and especially the technical aspects of poetry. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 425 - LITERATURE, SCIENCE & TECH

Semester Hours: 3

Considers the relationships among literature, scientific theories, and technological practices through a study of texts from ancient times to the present. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 429 - STUDIES IN AMERICAN CINEMA

Semester Hours: 3

Focuses on select topics in American cinema with an emphasis on film history, technique, aesthetics, and cultural context. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 430 - THE AMERICAN NOVEL

Semester Hours: 3

The American novel. In alternate years the course may focus on 19th or 20th century American novels. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 432 - AMERICAN LITERARY MODERNISM

Semester Hours: 3

Major writers and cultural/historical events surrounding American Modernism, with a focus on long texts and shorter forays into the major poets. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 433 - WILLIAM FAULKNER

Semester Hours: 3

Critical study of the major novels. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 434 - SCIENCE FICTION

Semester Hours: 3

Selected short stories and novels, exploring the thematic and narrative concerns of both classic and contemporary science fiction. In alternate years, the course may focus on a specific problem or concern in science fiction. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 435 - SPECIAL STUDIES AMERICAN LIT

Semester Hours: 3

Topics announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 437 - THE AMERICAN NINETEENTH CENTURY

Semester Hours: 3

This class will investigate Anglophone cultural expression and literary critical traditions associated with the long nineteenth century (1789-1919). Specific thematic concern or period of focus is left to the discretion of the instructor. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 438 - AFRICAN AMERICAN LITERATURE

Semester Hours: 3

Themes, concepts and imagery in the Black American literary tradition. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 439 - ETHNIC AMERICAN NOVEL

Semester Hours: 3

Race, ethnicity, and the 20th-century American Novel. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 440 - SPECIAL TOPICS ENGLISH STUDIES

Semester Hours: 3

Topics announced in advance. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 442 - USABILITY STUDIES

Semester Hours: 3

Introduces students to theory and practice of usability, which involves designing useful, easy-to-use websites, software, and products. The course involves group projects conducting real-world usability testing. Junior standing required.

EH 448 - THE BIBLE AS LITERATURE

Semester Hours: 3

An introduction to the major literary forms of the Bible. Material will be approached analytically, involving both socio-historical and literary-critical perspectives. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 450 - CHAUCER

Semester Hours: 3

A study of Geoffrey Chaucer's Middle English works including the early drama *visions*, *Troilus and Criseyde*, and the *Canterbury Tales*. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 451 - ARTHURIAN ROMANCE

Semester Hours: 3

A study of Arthurian Literature focused on medieval Welsh, Scottish, English, and French poetry and prose, as well as early-modern and modern adaptations of Arthurian stories in poetry, prose, drama, and film. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 452 - USER CENTERED DESIGN

Semester Hours: 3

Introduces students to user-centered design principles that inform the practice of user experience design. Students will use visual thinking as they complete contextual inquiries and mapping exercises.

EH 454 - NEW MEDIA WRITING & RHETORIC

Semester Hours: 3

This course teaches students to apply rhetorical principles across a variety of media and includes an examination of communication strategies used widely in academic and industry settings. The course focuses on new media through an exploration of digital technologies and the way digital culture and new media have dramatically impacted reading, writing, and research practices. Prerequisites: EH 101 and EH 102.

EH 460 - SIXTEENTH-CENTURY LITERATURE

Semester Hours: 3

Selected works from the reigns of Henry VIII and Elizabeth I. Close readings of texts in their historical, intellectual, and social contexts. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 461 - SHAKESPEARE I

Semester Hours: 3

Introduction to Shakespeare's canon, selected from tragedies, comedies, histories, romances. The course may include a variety of critical approaches (historical, political, feminist, queer, performative, linguistic, and cultural). Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 462 - SHAKESPEARE II

Semester Hours: 3

Specialized study of Shakespeare's works, with particular attention to a given genre, time period, theme, cultural context, and/or critical/theoretical approach. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 463 - CAPSTONE IN WRITING

Semester Hour: 1

A senior capstone course for the Writing BA for which students will complete a portfolio of their writing. Portfolios will include reflection on and revision to selected samples of course-participants' writing and a scholarly project completed for the capstone course. Prerequisites: EH 260.

EH 465 - DRAMATIC LITERATURE

Semester Hours: 3

Studies in Drama and interpretive strategies for reading plays. May be organized nationally, by genre, or by theme/topic. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 470 - MILTON

Semester Hours: 3

A study of the development of Milton's thought and art as it appears in his early poems, selected prose, and later poetry, with particular attention given to *Paradise Lost*. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 473 - EARLY MODERN LITERATURE

Semester Hours: 3

This course will examine a particular theme, issue and/or debate within the early modern period, roughly 1500-1700: constructions of subjectivity and community, the exploration of the New World, the rediscovery of the natural world through scientific investigation. The course will likely introduce modern scholarship. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 475 - RHETORIC AND WRITING

Semester Hours: 3

Provides a focused look at specific issues of rhetoric in society, with an emphasis on academic analysis and rhetorical strategy.

EH 480 - THE LONG EIGHTEENTH CENTURY

Semester Hours: 3

Introduction to major works from the Restoration through the American and French Revolutions, 1680-1800, with an emphasis on Britain and the colonies. Topics may include: the rise of the novel, the rise of the lyric, consciousness of modernity, satire, book history, working-class writers, female authorship, and empire. Prerequisites: EH 207 and EH 208 or EH 209 and EH 210.

EH 485 - THE ENLIGHTENMENT

Semester Hours: 3

The European Enlightenment emphasized the importance of reasoned, open-eyed investigations into nature and human society. Its legacies include the scientific method, the valuation of universal human rights, and the American and French Revolutions. Authors may include: Bacon, Behn, Hume, Swift, Voltaire, Montagu, Franklin, Jefferson, Equiano, and Wollstonecraft. Prerequisite: EH 207, EH 208, EH 209, EH 210 or EH 242.

EH 498 - INDEPENDENT STUDY

Semester Hours: 3

Individual investigation into significant issues in linguistics, literature, technical communication, or composition studies under direct supervision of instructor. Prerequisites: Written approval by the instructor and the department chair of a project prospectus. Junior or Senior standing.

EH 499 - SENIOR RESEARCH PROJECT

Semester Hours: 3

Required: special approval from chair and instructor.

Engineering Technology (ET)

ET 301 - ENGINEERING TECH FNDNS I

Semester Hours: 3

An introduction to the Engineering Technology profession, resources and skills. Students will learn about engineering design, communication, professional ethics, and basic principles and physical laws used to understand and solve engineering related problems. Prerequisites: MA 113 or higher, EH 102 or EH 105 and PH 102 or higher.

ET 302 - ENGINEERING TECH FNDNS II

Semester Hours: 3

A follow-on to ET 301, the course introduces the Engineering Technology profession, resources and skills. Students will learn about computational engineering tools, graphical communication, characteristics of materials, in addition to the mathematical and statistical methods used to understand and solve engineering-related problems. Co-requisite: ET 301 (Grade of C- or better).

ET 305 - ENGINEERING COMMUNICATION

Semester Hours: 3

Students will learn to communicate professionally in an engineering/technical environment. Students will develop written communication such as letters, memos, reports and proposals, create clear process descriptions and instructions, and deliver persuasive and effective oral presentations. Prerequisite: EH 102 or EH 103 or EH 105.

ET 310 - COMPUTER-AIDED DESIGN

Semester Hours: 3

An introduction to Computer-Aided Design (CAD) using Creo Parametric. Covers basic concepts of 3D modeling techniques and frequently used commands required to advance from a novice to an intermediate user level of Creo Parametric. Prerequisite: ET 302 or PRO 332 (grade of C- or better), or special permission. MAE 211 accepted as a substitute. PRO 333 or ET 310 does not substitute for MAE 211.

ET 314 - QUALITY CONTROL TECHNIQUES

Semester Hours: 3

This course will blend statistical quality control concepts and hands-on training in the methods, standards and guidelines currently being used for industrial quality control includes quality management systems such as ISO 9000 and Six Sigma and the design and application of control charts.

Prerequisite: MSC 287 or equivalent (grade C- or better).

ET 334 - PRINCIPLES OF STATICS

Semester Hours: 3

Develop an undertaking of the principles of statics. Topics include resultant and equilibrium of noncurrent and concurrent forces, force analysis of structures and machines, force systems in space, friction, centers of gravity, centroids, and movement of inertia of areas. Prerequisites: ET 302 or PRO 332, MA 171, ENG 101 or equivalent and PH 101. PRO 334 or ET 334 can not be used as a substitute for MAE/CE 271.

ET 335 - STRENGTH OF MATERIALS

Semester Hours: 3

Comprehend and compare the behavior of solid objects subjected to various stresses and strains. Topics include stress and strain for axial loads, shear stresses and strains in torsion members, bending and deflection of beams, combined stress using Mohr's circle columns, and structural connections.

Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 336 - PRINCIPLES OF DYNAMICS

Semester Hours: 3

Learn the principles of Dynamics based on two broad areas of study, Kinematics and Kinetics. Kinematics is the study of the geometry of motion.

Kinetics is the study of the relation between the forces acting on a body, the mass of the body, and the motion of the body. Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 341 - ELECTRICAL CIRCUITS & SYSTEMS

Semester Hours: 3

This course introduces the major topics related to electrical circuits and systems and demonstrates how electrical engineering concepts are applied in other fields and everyday products. Topics include basic circuit analysis, digital systems, electronic devices and circuits, and electromechanics.

Prerequisites: ET 302 or PRO 332 (grade of C- or better), MA 171, PH 102, ENG 101 or equivalent, MSC 287 or equivalent.

ET 431 - FUNDAMENTALS OF MANUFACTURING

Semester Hours: 3

This course introduces the fundamentals of manufacturing, examining the selection and use of various materials, processes, and systems. Prerequisites: (ET 310 or PRO 333 or MAE 201) and (ET/PRO 341 or EE 213) and (ET/PRO 335 or MAE 370 or CE 370).

ET 433 - INSTRUMENTATION & MEASUREMENT

Semester Hours: 3

This course introduces valuable topics that an engineering technologist needs to master in order to design measurement and instrumentation systems.

Topic areas include the essential general characteristics of instruments, electrical measurement systems, and computerized data acquisition systems.

Prerequisites: (ET/PRO 335 or CE 270 or MAE 370) and (ET/PRO 341 or EE 213). Co-Requisite: ET 434 lab required.

ET 434 - INSTRUMENT & MEASUREMENT LAB

Semester Hour: 1

Prepares students to design experimental projects and measurement systems. Topics include the essential characteristics of instruments, electrical measurement systems, and computerized data acquisition systems. Co-requisite: ET 433.

ET 495 - INTERNSHIP FOR ENG TECHNOLOGY

Semester Hours: 1-3

Provides hands-on experience in an engineering-technology field. The experience must include a suitable academic component evaluated by a faculty-advisor. Students must complete the internship approval process and be registered for the internship prior to the start of the internship. Prerequisites: ET 305, ET 335.

ET 498 - PROJECT MANAGEMENT FOR ET

Semester Hours: 3

Acquire the basics of project management including planning, managing cost, schedule, and scope of a project in a risk-filled environment over a project lifecycle. This is the first of a two-semester capstone progression. ET 498 must be taken the semester before ET 499. Prerequisites: PRO 310, ET 305, ET 310, ET 314, ET 335, ET 341 (All with grades of C- or better).

ET 499 - CAPSTONE FOR ENGINEERING TECH

Semester Hours: 3

In this capstone course students demonstrate their ability to apply both technical and non-technical skills in solving problems appropriate to the discipline including: designing components, systems and/or processes, conducting tests, communicating results, and functioning effectively on teams.

Prerequisite: ET 498.

English Second Language (ESL)

ESL 400 - POLICY & PRAC IN EDUC LINGUIST

Semester Hours: 3

In this course, we will investigate the sociocultural and political contexts within which linguistically diverse students encounter language across the U.S. education system. We will interrogate assumptions about language learning and teaching. Key topics include promising practices in supporting language and identity, such as translanguaging, multimodality, and multilingualism in educational and community settings.

ESL 410 - INTRO TO LANGUAGE SYSTEMS

Semester Hours: 3

In this course, we study language systems in context. Phonetics, phonology, morphology, syntax, and semantics are the units of analysis as we consider variables that impact development and usage at individual and group levels. Comprehension and production of meaning across content domains are key elements of course assignments.

ESL 420 - INSTR & ACADMC LANG CNTNT DOMN

Semester Hours: 3

In this course, we investigate language usage through analysis of key structures, including the word, group, phrase, sentence and extended discourse. Following the systemic-functional framework, we will consider the design of instructional and academic language from a social semiotic perspective, highlighting the complex of options available for meaning making across multiple languages.

ESL 430 - SPECIAL TOPICS IN ESOL

Semester Hours: 3

This course students to current issues and trends within educational practice, policy, research, and theory as they relate to the broader context of English as a Second Language (ESOL). Students investigate issues of teaching and learning within the broader sociocultural context, including basic exploration of current research and debate within education. Topics may vary with each offering.

ESL 440 - INSTRUC & EVAL OF LANG USE

Semester Hours: 3

This course provides the foundation for effective instruction of linguistically diverse students. We critique the theoretical underpinnings of historical and contemporary ESOL education as well as the selection of instructional materials, course design, and lesson plans. Assignments include the design of pedagogically sound classroom instruction and lesson plans, as well as application of responsive, evidence-based evaluation methods.

Finance (FIN)

FIN 100 - PERSONAL FINANCIAL PLANNING

Semester Hours: 3

An introduction to the study of personal money management. Topics include budgeting, home ownership, insurance, investing, and retirement planning. Cannot be used by finance majors as an elective in the major.

FIN 230 - FINANCE ACADEMY I

Semester Hour: 1

Designed to enhance the learning experience for students majoring in finance, economics, and accounting. Students get a "jump-start" on learning and applying basic finance knowledge and skills, including Excel spreadsheets. Also includes activities designed to develop "soft skills" such as professionalism, speaking, and working in teams/groups. Students begin to manage an actual investment portfolio.

FIN 301 - PRINCIPLES OF FINANCE

Semester Hours: 3

A study of the basic principles of modern finance: financial statement analysis, time value of money, security valuation, risk and return, capital investment, cost of capital, and international finance. Prerequisites: ECN 143, ACC 210 or ACC 212 and MSC 287, SOC 303, PY 300, MA 385, or ISE 390.

FIN 330 - FINANCE ACADEMY II

Semester Hour: 1

A continuation of FIN 230. Students learn and apply the tools and knowledge to begin analyzing companies for investment, including TVM, ratio analysis, equity investment fundamentals, and more advanced Excel techniques. Emphasis is placed on individual stock analysis and students propose stocks for the Chan Fund. Prerequisite: FIN 230.

FIN 352 - MONEY & BANKING

Semester Hours: 3

Organization, operation, and economic significance of monetary and banking systems. Fractional reserve banking systems, money creation, the Federal Reserve System, U.S. financial intermediaries, introduction to monetary theory and international finance. Prerequisites: ECN 143.

FIN 370 - COMMERCIAL BANK MANAGEMENT

Semester Hours: 3

A study of the financial management of commercial banks emphasizing both current events and principles of sound management. Topics range from measuring bank performance, asset and liability management, risk management, and international banking.

FIN 375 - FINANCIAL INSTITUTIONS

Semester Hours: 3

Role and activities of financial intermediaries as they affect flow of funds and capital formation money markets in which these institutions operate.

FIN 378 - INTERMEDIATE CORPORATE FINANCE

Semester Hours: 3

Financial theory as it relates to long-term and short-term financial planning, capital investment decisions, and capital structure policy decisions. Prerequisites: FIN 301.

FIN 400 - INVESTMENT PRACTICUM

Semester Hours: 4

Small number of students work closely with finance faculty in the UAH Capital Management Group (CMG) to manage actual investment portfolios. Emphasis is placed on individual stock selection and management of the portfolio to meet objectives. Prerequisites: FIN 460 or permission of instructor.

FIN 430 - FINANCE ACADEMY III

Semester Hour: 1

A continuation of FIN 330. Emphasis is on the management of the Chan Fund. Students learn different aspects of the portfolio management process, and serve as the portfolio manager for the Chan Fund. Prerequisite: FIN 330.

FIN 431 - ADVANCED CORPORATE FINANCE

Semester Hours: 3

Financial principles applied to financial management problems such as cash management, payables and receivables management, cost of short-term credit, and forecasting and financial planning. Prerequisite: FIN 378.

FIN 454 - INTERNATIONAL FINANCE

Semester Hours: 3

An introduction to international finance for tomorrow's global business leaders, with a focus on the financial management dimensions of leading a multinational enterprise. Prerequisites: FIN 301.

FIN 460 - INVESTMENTS

Semester Hours: 3

A study of standard investment securities, as well as an overall view of the investment process. Securities covered include equities, fixed income, options, futures and mutual funds. Associated topics include financial markets, valuation models, and fundamental portfolio theory. Prerequisites: FIN 301.

FIN 461 - PORTFOLIO MANAGEMENT

Semester Hours: 3

A continuation of FIN 460 with an emphasis on the application of investment portfolio management. An understanding of the functional areas of portfolio management is stressed, including investment policy, investment strategy, portfolio construction, performance evaluation, and portfolio protection. Prerequisites: FIN 301 and FIN 460 both with minimum grade of B-.

FIN 490 - SPECIAL PROJECTS

Semester Hours: 3

Independent study in an area of interest to the student in the field of finance. Approval of department chair is required.

FIN 495 - INTERNSHIP IN FINANCE

Semester Hours: 1-3

Active involvement in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Subject to College's guidelines on internships.

Film and Media Arts (FMA)

FMA 123 - INTRO TO FILM STUDIES

Semester Hours: 3

Students develop a critical understanding of how the 'language' of film uses image and sound to produce meaning and pleasure, and to elicit audience response in order to generate what constitutes meaning. Concentrating on film form and style, the course teaches students to engage cinema in relation to narrative, mise-en-scene, cinematography, editing, sound, and genre.

FMA 210 - WRITING FOR VISUAL MEDIA

Semester Hours: 3

This course offers an introduction to scriptwriting for a variety of media: commercials, PSAs, fiction films, documentaries, and the web. The art of "visual writing" is emphasized. Students produce scripts on their own while contributing to and critiquing the work of their fellow classmates. ed, communication medium. Prerequisites: EH 101, EH 102.

FMA 260 - VIDEO PRODUCTION

Semester Hours: 3

This course provides students with an opportunity to experience the process of video production through creative projects designed to stimulate the visual artist, summon the storyteller and create the video editor.

FMA 334 - HISTORY OF AMERICAN CINEMA

Semester Hours: 3

Investigates the American cinema as a cultural artifact by studying cultural and historical context of representations, audiences, aesthetics and industry practices in American cinema from its beginning (1895) to present.

FMA 340 - SP TOPICS FILM & MEDIA ARTS

Semester Hours: 3

Topics announced in advance. Representative topics include Cinematography, Editing, Broadcast and so forth. This can be taken twice for credit.

FMA 360 - VIDEO PRESENTATION

Semester Hours: 3

Advanced Video Production is an intensive video production course designed to integrate film theory and practice. Students will learn the technical and artistic necessities of the film and video medium. Through immersive lectures, workshops, projects, and exercises, students will gain valuable experience and know-how in this exciting, fast-paced, communication medium. Prerequisite: TH 260.

FMA 375 - DOCUMENTARY FILM PRODUCTION

Semester Hours: 3

Through readings, screenings, discussion, and practice, students will become acquainted with various approaches to documentary film and video in theory and practice. Focus will be on the ethical, rhetorical, and creative choices that form conventions and modes documentary filmmakers have developed in their practice and critics have used to describe and analyze how documentaries communicate. Students will experiment with some of these choices by working on their own short documentary projects.

FMA 401 - INTERNSHIP IN VIDEO

Semester Hours: 3

Students receive practical, production experience in the engagement of a creative project where they are able to apply principles, theories, and production skills learned from previous video courses and/or other course work.

FMA 431 - VIDEO CAPSTONE

Semester Hours: 3

senior Capstone in Video is required of all students in the Film and Media Arts minor. A final video project is submitted and approved by the FMA director and can include feature film, documentary, video marketing and video for social media to name a few. Project to represent the culmination of learning and skill garnered from the program. Prerequisites: FMA 260 and FMA 360.

FMA 460 - STUDIO BROADCAST PRODUCTION

Semester Hours: 3

This course provides students with an opportunity for learning pre-production, production and post-production of television and live event programs using field shooting and multi-camera production techniques of a TV studio. Class activities include operation of cameras, control panels, lights, and audio in directing and producing non-dramatic programs such as sports, journalism/news, demonstrations, video gaming, commercials, and interviews. Prerequisite: FMA 260.

First Year Experience (FYE)

FYE 101 - CHARGER SUCCESS

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students. (Same course as FYE 101A, FYE 101B, FYE 101D, FYE 101E, FYE 101G, FYE 101N, FYE 101S).

FYE 101A - CHARGER SUCCESS - ART,HUM,SOCS

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101B - CHARGER SUCCESS - BUSINESS

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101D - CHARGER SUCCESS - EDUCATION

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101E - CHARGER SUCCESS - ENGINEERING

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101G - CHARGER SUCCESS - GENERAL STUD

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101H - CHARGER SUCCESS - HONORS

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101N - CHARGER SUCCESS - NURSING

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

FYE 101S - CHARGER SUCCESS - SCIENCE

Semester Hour: 1

The purpose of Charger Success 101 is to, help new students make a successful transition to the University of Alabama in Huntsville, both inside and outside the classroom. This course aims to foster a sense of belonging, promote engagement in the academic life of the university, and articulate to students the expectations of the University. In addition, the course will assist students to develop and apply critical thinking skills, as well as to help students to clarify their academic goals and eventual career direction. This course is mandatory for all freshman students.

Global Studies (GS)

GS 199 - STUDY ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 200 - GLOBAL SYSTEMS AND CULTURES

Semester Hours: 3

A multidisciplinary introduction to global studies through a focus on cultural, economic, political, and historical dimensions of interactions among world nations and cultures.

GS 299 - ST: GLOBAL STUDIES ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 399 - STUDY ABROAD

Semester Hours: 1-3

Course will involve travel to selected countries for academic study purposes. The course is open to all UAH students with permission of the instructor. May be repeated for credit when the content of the course differs.

GS 400 - GLOBAL STUDIES CAPSTONE

Semester Hours: 3

Capstone independent study for students completing the Global Studies minor. Students complete a portfolio essay assignment and essays connected to the program's core competencies. Prerequisite: GS 200, its equivalent, or approval of instructor. Offered as needed as independent study to students in final semester of study.

GS 450 - GLOBAL PROFESSIONAL PORTFOLIO

Semester Hour: 1

This course serves as the capstone learning experience for students completing the Global Professional Pathways Certificate program. Students will complete the Global Professional Pathways Portfolio in which they reflect on and assess their foreign language study and experience abroad and how these learning experiences have helped them prepare for a global career in their field.

GS 499 - SELECTED TOPICS IN GLOBAL STU

Semester Hours: 1-3

Selected topics in Global Studies. Course may also take place abroad as part of a study abroad program. May be repeated for credit with permission of Global Studies Program director.

Health & Physical Education (HPE)

HPE 100 - AEROBICS

Semester Hours: 2

Improve cardiovascular fitness, flexibility, muscular strength and endurance, balance, and postural alignment. This class will focus on aerobic activity, specifically in the form of low- and high- impact aerobics. A wide variety of exercises will be included to provide a total-body workout.

HPE 105 - CARDIO DANCE

Semester Hours: 1-2

HPE 109 - SPEED & PLYOMETRIC TRAINING

Semester Hours: 2

HPE 110 - WALK/JOG/RUN

Semester Hour: 1

A beginner and intermediate level course with emphasis placed on giving a positive introduction to walking, jogging, and running as a way to enhance fitness and promote weight control, and to provide a viable option for a lifetime fitness activity.

HPE 111 - BUTTS & GUTS WORKOUT

Semester Hours: 2

HPE 117 - WEIGHT TRAINING

Semester Hours: 2

Learn to safely and efficiently use strength training techniques to reach your fitness goals. Develop the skills needed to create a personalized weight training program.

HPE 120 - SWIMMING

Semester Hour: 1

Learn the basic or progress in your swimming by learning the common swim strokes and techniques. Introduction to conditioning and training and work toward improving skills and endurance bringing higher efficiency in the water.

HPE 127 - LADIES SELF-DEFENSE

Semester Hour: 1

Explore the concepts, strategies, and methods of self defense. Topics and skills include wrist escapes, falling skills, various strikes and kicks, groundwork, weaponry, and escape tactics. Further, an emphasis will be placed on developing and improving situational awareness.

HPE 129 - KUNG FU

Semester Hours: 2

Kung Fu has become one of the most popular forms of martial arts. Students will be introduced to Sil Lum Tao, the first in the three forms of Wing Chun Kung Fu. The name means "little imagination" and refers to the need of the student to use their imagination in the practice and application of techniques.

HPE 130 - KARATE

Semester Hours: 2

Learn karate techniques and acquire skills required to perform these techniques. The objective of Karate is to teach the student defensive skills through various stances and self-defense techniques.

HPE 133 - AIKIDO

Semester Hour: 1

HPE 134 - T'AI CHI

Semester Hours: 2

Learn an ancient Chinese exercise and martial art which is used to develop one's internal energy, health and well-being. The 37 postures of the short form in the Yang style will be executed.

HPE 135 - INTERMEDIATE T'AI CHI

Semester Hours: 2

HPE 136 - YOGA

Semester Hour: 1

HPE 137 - JUDO/JUJITSU

Semester Hours: 2

Judo/Jujitsu provides students with an introduction to the Japanese martial arts of Judo and Jujitsu. Focus will be on both the competition aspect of Judo and the self-defense aspects of each art including throws, take-downs, joint manipulation and chokes.

HPE 140 - BALLROOM DANCE

Semester Hours: 2

An introduction to the most popular smooth and rhythm ballroom patterns danced in America including the Waltz, Fox Trot, Tango, Cha-Cha, Rumba, Samba, Merengue, Bolero, Polka, Swing, and Mambo. Learn the appropriate skills necessary to become a social dancer, including leading, following etiquette and partner dancing.

HPE 142 - SWING DANCE

Semester Hours: 2

HPE 144 - COUNTRY WESTERN DANCE

Semester Hour: 1

HPE 150 - RACQUETBALL

Semester Hours: 2

Learn the basic of racquetball, including rules, equipment and skills. Singles (2 players), Cut throat (3 players) and Doubles (4 players) versions of racquetball will be taught. Double games during class times will be played when both safety and skill level of the players are acceptable to the instructor.

HPE 153 - TENNIS

Semester Hour: 1

Students will learn the fundamentals of tennis including forehand, backhand, serve, volley, footwork, and ground strokes. There will be both singles and doubles play and a class tournament. Highlights include understanding the rules, regulations and strategies of the game.

HPE 156 - GOLF

Semester Hour: 1

Students will understand and learn the basic skills of golf, including rules, proper stance, grip and swing for all clubs. Clubs are available if needed.

HPE 167 - ROCK CLIMBING

Semester Hours: 2

\$100 fee to be paid directly to Rock Climbing facility.

HPE 169 - BASKETBALL

Semester Hour: 1

HPE 170 - VOLLEYBALL

Semester Hour: 1

Learn the fundamentals skills of volleyball including passing, setting, hitting, blocking, and serving with advanced skills in spikes and positioning also being covered. Scrimmage games will be played to practice learned skills. This course will cover the rules of volleyball and its advantage as a lifetime sport, with a focus on skill development.

HPE 174 - BILLIARDS

Semester Hour: 1

HPE 199 - SP TOP:HLTH & PHYS ED

Semester Hours: 1-3

HPE 221 - ADVANCED SCUBA

Semester Hour: 1

Presents skills and knowledge for deep diving (80 + feet). Limited visibility diving, and advanced navigation techniques. Earn YMCA advanced open water certification. Students must provide mask, fins, and snorkel. Cost of open water dives not included in lab fee.

HPE 223 - LIFEGUARD TRAINING

Semester Hours: 2

Certification as a Red Cross approved lifeguard upon successful completion of classroom and in-water instruction and testing.

HPE 224 - WATER SAFETY INSTRUCTOR

Semester Hours: 3

Techniques for teaching infant and pre-school aquatics. The American Red Cross Learn to Swim Program, and Basic Water and Emergency Water Safety courses. Includes pre-test and instructor candidate training course.

HPE 231 - INSTR AIRPLANE(IFR)RATING GR S

Semester Hours: 3

Provides student with knowledge needed for instrument flight instruction air training. Prepares student for FAA Instrument Flying Examination.

HPE 400 - SPECIAL TOPICS - INTERNSHIP

Semester Hours: 3

Innovative internship focused on working with students with disabilities. Observations, participation, and direct instruction and teaching in a middle or high school setting for a prescribed time.

History (HY)

HY 103 - WORLD HISTORY TO 1500

Semester Hours: 3

Explore the historical development of peoples and cultures from their beginnings to 1500. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas and Oceania.

HY 104 - WORLD HISTORY SINCE 1500

Semester Hours: 3

Explore global interdependence from the period of transoceanic exploration to the present. Trace cross-cultural interactions among societies, states, and economies of Asia, Europe, Africa, the Americas, and Oceania.

HY 221 - UNITED STATES TO 1877

Semester Hours: 3

Discovery of America through the Civil War and Reconstruction.

HY 222 - UNITED STATES SINCE 1877

Semester Hours: 3

United States from the end of the Civil War era to the present.

HY 300 - CRAFT OF HISTORY

Semester Hours: 3

Introduction to historical methods and thought, designed to prepare history majors for upper-level coursework. Required of all history majors, including transfer students. Open to non-history majors. Prerequisites: HY 103 and HY 104.

HY 306 - COLLAPSE OF CIVILIZATIONS

Semester Hours: 3

This course will investigate why some cultures succeed and others fail.

HY 310 - INTRODUCTION TO PUBLIC HISTORY

Semester Hours: 3

Introduces the interdisciplinary field of public history, including historic preservation, cultural resource management, local and state history, methodology, historical archaeology, museum studies, oral history, and archival management through academic training and practical experience.

HY 311 - HISTORIC ARCHAEOLOGY

Semester Hours: 3

Introduces intellectual and practical concepts using elements of research, fieldwork, analysis, and interpretation to explore and recreate the documented and undocumented past.

HY 312 - CULTURAL RESOURCE MANAGEMENT

Semester Hours: 3

Cultural resource management encompasses recognition description, maintenance, security, and overall management of historical items, places, and ideas through preservation and protection.

HY 325 - HISTORY OF ALABAMA

Semester Hours: 3

The state's past from colonial times to the present with emphasis on its place in United States history.

HY 329 - IMPERIAL ROME

Semester Hours: 3

Roman Empire from the Principate to the barbarian invasions.

HY 331 - WORLD OF MIDDLE AGES

Semester Hours: 3

Survey of the origins and development of medieval society in Europe from the fall of Rome to the Age of Discovery, including the Latin West, Byzantium, and Islamic world.

HY 360 - AMERICAN HISTORY THROUGH FILM

Semester Hours: 3

This course will explore how motion pictures have shaped our views on American history and how the past has shaped movie making.

HY 367 - WOMEN IN U.S. HISTORY

Semester Hours: 3

Women in the United States from the colonial period to the present.

HY 368 - AMERICAN ENVIRONMENTAL HISTORY

Semester Hours: 3

Explores the interrelationship of people and the environment in American history from 1500 to the present.

HY 370 - TECHNOLOGY IN AMERICAN HISTORY

Semester Hours: 3

Explores the history of the interrelationship of people and technology in American history from 1600 to the present.

HY 371 - US MILITARY HY FRM INDP TO PRS

Semester Hours: 3

Explores the evolution of the U.S. military from the War of Independence to the present.

HY 373 - FOREIGN REL US TO 1920

Semester Hours: 3

American foreign relations from the Revolutionary era through World War I. American territorial and commercial expansion, imperialism, and emergence as a world power.

HY 381 - COLONIAL LATIN AMERICA

Semester Hours: 3

This course surveys the history of Colonial Latin America from the Hispanic period to the wars of independence in the nineteenth century.

HY 382 - MODERN LATIN AMERICAN

Semester Hours: 3

This course surveys the history of Latin America from the nineteenth century to the present.

HY 383 - FOOD AND WORLD HISTORY

Semester Hours: 3

Examines the role of food and drink in various historical settings.

HY 384 - ISLAMIC WORLD TO 1800

Semester Hours: 3

This course explores how Islam emerged as a civilization and connected geographic areas across the globe. Topics include: the prophet Muhammad; early Arab conquests; the Sunni-Shiite split; the expansion of the Islamic world into Europe, Africa, and Asia; and the challenge of European imperialism.

HY 385 - MODERN MIDDLE EAST

Semester Hours: 3

This course seeks to establish a historical basis for understanding the current events of the modern Middle East (1800-present). Topics include: the making of the modern Middle East both before and after WWI; the Arab-Israeli conflict; and the relationship between the U.S. and the Middle East.

HY 390 - GENDER & SEXUALITY MODERN EURO

Semester Hours: 3

Explores the history of gender and sexuality in Europe from the Enlightenment to the present.

HY 391 - EUROPE, 1500-1815

Semester Hours: 3

Examination of the economic, scientific, social, political, and cultural developments in Europe from the Renaissance to the French Revolution.

HY 392 - EUROPE SINCE 1815

Semester Hours: 3

Europe from the French Revolution to the present.

HY 399 - SPECIAL TOPIC IN HISTORY

Semester Hours: 3

Intensive examination of particular problems, periods, or topics in history.

HY 401 - DAILY LIFE IN ANCIENT ROME

Semester Hours: 3

This course will re-create the daily lives of the ancient Romans using secondary readings, ancient literature, archaeology, and film. It focuses on the lives of ordinary people, with an eye to their struggles, everyday practices, beliefs, values, and mentalities.

HY 410 - SPEC TOPICS IN PUBLIC HISTORY

Semester Hours: 3

Intensive examination of a particular problem, aspect, or methodology in public history.

HY 413 - THE OLD SOUTH

Semester Hours: 3

Southern society, economics, politics and culture concentrating on the nineteenth century South through Reconstruction.

HY 414 - THE NEW SOUTH

Semester Hours: 3

Post-Reconstruction South emphasizing the economic, social, and political readjustments made during the twentieth century. Open to students who have completed 12 semester hours in history or senior standing or have permission of instructor.

HY 424 - THE ATLANTIC WORLD

Semester Hours: 3

Examines interactions across the Atlantic Ocean among Africans, Americans, and Europeans. This course meets the requirements for either American or non-American credit in the history major.

HY 426 - COLONIAL AMERICA

Semester Hours: 3

Explores the founding of New World colonies, including political, social, economic, and religious developments during the colonial period.

HY 427 - AGE OF AMERICAN REVOLUTI

Semester Hours: 3

Explores the multinational connections and conflicts that lead some English colonists to revolt. Considers the political, social, and economic aspects of the time period.

HY 428 - EARLY AMERICAN REPUBLIC

Semester Hours: 3

Political, social, and economic changes between the American Revolution and the nineteenth century that laid the foundation for the United States.

HY 429 - CIVIL WAR & RECONSTRUCTION

Semester Hours: 3

An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction eras.

HY 437 - THE RISE OF MODERN AMER

Semester Hours: 3

Economic and social changes, imperialism, and the growth in government in the United States from 1877 to the 1920s.

HY 438 - MODERN AMERICA

Semester Hours: 3

American society, politics, economics, and foreign affairs from the end of World War I to the origins of the Cold War.

HY 439 - RECENT AMERICAN HISTORY

Semester Hours: 3

Contemporary America from the 1950s to the present, analyzing both domestic and foreign affairs.

HY 440 - FOREIGN REL U.S. SINCE 1920

Semester Hours: 3

United States as a world power. American involvement in World War II, Vietnam, and the Cold War, and the growth of American presence in Asia, Latin America, and the Middle East.

HY 445 - COMPTVE MILITARY PLCY & STRAT

Semester Hours: 3

A comparative analysis of the military policy and strategy of states and empires in World History.

HY 451 - SCIENCE & RELIGION IN HISTORY

Semester Hours: 3

Integrated survey of the history of science and religion in mostly Western contexts from Greek. Antiquity to present debates. Prerequisites: HY 300.

HY 472 - US MILITARY HISTORY SINCE 1920

Semester Hours: 3

The evolution of United States armed forces from 1920 to the present. The class will enhance understanding of the development and evolution of American strategy, doctrine, and operational issues.

HY 473 - U.S.-LATIN AMERICAN RELATIONS

Semester Hours: 3

This class focuses on the history of political, economic, and cultural interactions between Latin America and the United States from 1800 to the present. Topics include military intervention, trade, cultural exchanges, the Cold War, the drug war, and immigration.

HY 474 - RENAISSANCE & REFORMATION

Semester Hours: 3

Selected topics in the Italian Renaissance and European Reformation.

HY 475 - SECTARIANISM ISLAMIC WORLD

Semester Hours: 3

This course focuses on sectarianism, the practice and rhetoric surrounding marginalization of certain social-religious groups in the Islamic world. It explores the historical foundations of sectarianism (from early 7th century to today) both within the Islamic world and across the globe.

HY 476 - BEING YOUNG MODERN MIDDLE EAST

Semester Hours: 3

This course focuses on the lives of young men and women of the Modern Middle East. It explores how children and youth experienced historical phenomena in the region, the ways in which these experiences affected the foundations of their adulthood, and how their actions shaped historical events.

HY 480 - ROMANS&BARBARIANS LATE ANTIQTY

Semester Hours: 3

This course explores the dynamic world of Late Antiquity including political developments, social and religious transformation, and exchange patterns in the Mediterranean. It is a history of cultural interaction, continuity, and change during a formative period in western civilization.

HY 481 - EMPIRES AND NATIONS

Semester Hours: 3

Thematic focus on empires and nations as political and cultural constructs in European and world history. Students may take HY 481 more than once for credit ONLY IF 1) a different instructor teaches each offering, and 2) the temporal and/or geographic focus is distinct each time.

HY 482 - COMPTV SLAVERY & ABOLITION

Semester Hours: 3

Explore what slavery has meant in the ancient world, Indian Ocean, Africa, the United States, and/or other locations over time.

HY 483 - GENDER & SEXUALITY LATIN AM

Semester Hours: 3

Studies the history of women, gender and sexuality in Latin America from the colonial period to the present.

HY 484 - LATIN AMERICAN HIST THRU FILM

Semester Hours: 3

Latin American history through the perspective of fictional films.

HY 485 - NAZI GERMANY AND THE HOLOCAUST

Semester Hours: 3

Seminar course on the historiography of Nazi Germany and the Holocaust.

HY 486 - COMMUNISM LEGCY RUSSIA EAST EU

Semester Hours: 3

Overview and analysis of communist states and post-communist legacies in Russia and Eastern Europe.

HY 490 - RESEARCH SEMINAR IN HY

Semester Hours: 3

Research and writing with primary sources and historiography. Required of all history majors. Prerequisites: HY 300 and 6 hours in History at the 300 or 400 level, or instructor's permission. Students should take HY 490 as late in their academic career as possible.

HY 492 - PUB MEMORY & INTERP

Semester Hours: 3

Examines how public memory is created by looking at the social, political, and economic forces that shape public history and considers how historical knowledge is conveyed to the public. Prerequisites: 6 hours in History or Instructor's Permission.

HY 493 - FUNDAMENTALS OF ARCHIVES

Semester Hours: 3

Survey of basic archival theory and practice, with emphasis on the role of the archivist in contemporary society.

HY 494 - DEVELOPING DIGITAL ARCHIVES

Semester Hours: 3

Survey of the theory and practice of developing digital access tools in archives, libraries, and museums.

HY 495 - PUBLIC HISTORY INTERNSHIP

Semester Hours: 3

A semester-long public history internship for completing a significant project using historical skills as a professional usually in an off-campus setting. Students must complete 125 hours of work during their internship. Permission of instructor or chair is required.

HY 498 - STUDIES IN HISTORY

Semester Hours: 1-3

A readings or research class on a particular problem, period or topic in history. This course may be repeated for credit.

HY 499 - INDEPENDENT STUDY

Semester Hours: 3

In exceptional circumstances, a student and professor may work together on a specialized topic.

Industrial & Systems Engineering (ISE)

ISE 224 - INTRO INDUSTRIAL & SYSTEMS

Semester Hours: 3

Overview of industrial engineering concepts. Includes history and development of classical industrial engineering; documentation and computational methods; basic work methods and measurement; manufacturing systems; and economic decision analysis. Prerequisites: EGR 101.

ISE 299 - ISE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: ISE 224.

ISE 321 - ENGINEERING ECONOMY

Semester Hours: 3

Economic evaluation of engineering alternatives. Interest, time-value of investments, depreciation and income taxes, break-even cost analysis. Sophomore standing.

ISE 324 - WORK DESIGN

Semester Hours: 3

Principles of methods analysis and ergonomics to fit a task and workstation to the human operator including work measurement and tools, work sampling, job analysis, anthropometric data, and workplace design. Laboratory exercises focus on the implementation of lean principles. (Same as PY 324) Prerequisites: ISE 390 or PY 300.

ISE 327 - MANAGEMENT SYSTEMS ANALYSIS

Semester Hours: 3

Formal organization structures and functions. Analysis of organization planning leading toward the accomplishment of goals. Techniques for making decisions within formal organizations, together with ethical constraints. Emphasis on technical writing. Prerequisite: ISE 390.

ISE 328 - INTRO SYSTEMS ENGINEERING

Semester Hours: 3

Development of a systems framework for the design and realization of systems, with emphasis on the conception, design and management of systems in complex environments. Topics include systems concepts, requirements, architecture, evaluation, integration, trades, and object oriented methods and concepts.

ISE 340 - OPERATIONS RESEARCH

Semester Hours: 3

Fundamental methods, models and computational techniques of operations research. Linear programming including transportation, assignment of simplex algorithms. Queuing theory. Prerequisites: ISE 390 and MA 244.

ISE 390 - PROB & ENGR STATISTICS I

Semester Hours: 3

Engineering uses of probability, discrete and continuous probability distributions including the binomial, Poisson, hypergeometric, normal, uniform, lognormal, and exponential distributions. Statistical sampling, distributions of means, variances, and proportions. Hypothesis testing and confidence intervals. Prerequisite: MA 201.

ISE 391 - PROB/ENGR STAT II

Semester Hours: 3

Continuation of ISE 390 with regression analysis, analytics of variance, and nonparametric statistics. Introduction to design of engineering experiments, and computer-based solution of large-scale problems. Prerequisite: ISE 390.

ISE 399 - ISE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: ISE 299 and ISE 391.

ISE 402 - INDUSTRIAL & ORGANIZA PSY

Semester Hours: 3

Application of basic principles of learning, motivation, and perception to typical industrial and organizational problems. Senior standing. (Same as PY 402/502).

ISE 403 - HUMAN FACTORS PSYCHOLOGY

Semester Hours: 3

Study of human performance in human-technology-environment systems. Consideration of human capabilities and limitations as related to controls and displays, and the role of human cognition in decision-making and training effectiveness. Senior standing. (Same as PY 403/503).

ISE 421 - IMPROVING HEALTHCARE SYST

Semester Hours: 3

Overview of healthcare systems with emphasis on departments; functions and improving operational performance. Lean concepts and techniques are introduced as they specifically apply in a healthcare environment. Topics include workplace organization; patient and material flow; pull systems; value stream mapping; practical problem solving and root cause analysis. Multiple hands-on simulations and laboratory exercises are utilized to demonstrate the concepts.

ISE 422 - HEALTHCARE SYST ENGR

Semester Hours: 3

This course explores and introduces students to the systematic and quantitative analysis of healthcare systems. The purpose of this class is to increase the student's understanding of how to apply proven industrial and systems engineering methods to healthcare related problems. Potential topics include: healthcare, financing, health analytics, lean and six sigma as they relate to healthcare, reliability and patient safety, capacity management and healthcare logistics.

ISE 423 - INTR STATISTICAL QUALITY CONTR

Semester Hours: 3

Introduces statistical theory and techniques to control quality of manufacturing products. Provides a solid foundation in Statistical Quality Control. The Six Sigma methodology is also introduced in this course. Students can take the certification exam to earn Green Belt in Six Sigma. Prerequisite: ISE 391.

ISE 426 - DSGN & ANALY OF EXPERIM

Semester Hours: 3

Advanced topics in statistical experiments with emphasis on the design aspect. Factorial designs, including fractional replication and confounding. Includes computer laboratory exercises. (Same as ISE 526). Prerequisite: ISE 391.

ISE 428 - SYSTEMS ANALYSIS & DESIGN I

Semester Hours: 3

Philosophy and methods of industrial and non-industrial systems analysis and design. Methods of systems definition, analysis, simplification, evaluation, and optimization. Design project required. Ethics and technical writing are emphasized. Senior Standing. Prerequisites: ISE 124, ISE 321, ISE 340, ISE 391, and ISE 399 or EGR 399.

ISE 429 - SYS ANALYSIS/DESIGN II

Semester Hours: 3

Continuation of design project begun in ISE 428. Prerequisite: ISE 428.

ISE 430 - MANUF SYS & FACILITIES DESIGN

Semester Hours: 3

Modern manufacturing systems design with emphasis on facility location and plant layout. Includes classical systems, just-in-time systems, principles of integrated manufacturing systems design, and an analysis of process flow and productivity, and available space to determine facility layout. (Same as ISE 530) Prerequisites: ISE 324 or MAE 378.

ISE 433 - PROD & INVENTORY CONTROL SYS

Semester Hours: 3

Inventory models including classical optimal economic order quantity models, manufacturing resource planning systems, production scheduling, material requirements, and purchase order control. Emphasis on manufacturing system revisions, continuous process improvement, and implementation of lean principles. Prerequisite: ISE 390.

ISE 436 - INTRO TO ADDITIVE MFG

Semester Hours: 3

Overview course on additive manufacturing technologies, including 3D printing, prototyping, powder deposition, powder spraying, laminate materials manufacturing, ultrasonic consolidation, and other topics. Focus on design for manufacturing. Prerequisite: CE 211 or MAE 211.

ISE 437 - ELECTRONICS MANUF PROCESSES

Semester Hours: 3

Concepts, facilities, and technology utilized in the manufacture of electronic components and products. Includes printed wiring board fabrication and component mounting methods, automation, quality and reliability, product testing, and economic issues. Senior Standing. (Same as ISE 537).

ISE 439 - SELECTED TOPICS/ISE

Semester Hours: 1-3

ISE 447 - INTRO TO SYSTEMS SIMULATION

Semester Hours: 3

Philosophy and elements of digital, discrete-event simulation. Emphasis on modeling and analysis of stochastic systems, including probabilistic models, output analysis, and the use of simulation software. (Same as ISE 547) Prerequisites: CPE 112 and ISE 391.

ISE 480 - SYSTEMS ENGINEERING MODELING

Semester Hours: 3

The main goal of this course is to teach the student Model Based Systems Engineering (MBSE) fundamentals with application to real-world systems engineering problems. Students will learn (1) core systems engineering concepts and processes; (2) System Modeling Language (SysML) fundamentals and its use to develop and execute system models on a SysML based tool and (3) Architecture and physical model execution, simulation and integration.

Honors College (HON)

HON 101 - INTRO TO HONORS RESEARCH

Semester Hour: 1

Introduction to research methods and information literacy for new Honors Students. Helps students transition to research and coursework commensurate with Honors College standards.

HON 201 - SCHOLARSHIPS GRAD SCHOOL

Semester Hour: 1

Assist select Honors Students to prepare and apply for prestigious national scholarships and top graduate programs.

HON 301 - HONORS SPECIAL SEMINAR

Semester Hours: 1-2

Intensive, discussion-based, interdisciplinary exploration of contemporary topics in the sciences, social sciences, humanities, and engineering. Topics will be decided by instructors and will vary by term. May be team taught. Open only to Honors Students.

HON 399 - HONORS INTERDISCIPLINARY SEM

Semester Hours: 3

Interdisciplinary study of a selected topic. The seminar will facilitate serious appraisal of an issue that crosses disciplinary boundaries and that can be explored using different scholarly methodologies. Prerequisites: Admission to the Honors College.

HON 400 - HONORS INTERNSHIP

Semester Hours: 1-6

Active involvement in a business enterprise, professional organization, or government agency that has particular interest and relevance to the student's course of study. The outside entity must identify a mentor who will keep regular contact with the student. Requires the student to maintain a log of activities and produce a semester-end report. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Approval of the Honors College Dean. Prerequisites: Admission to the Honors College.

HON 401 - HON ENGINEERING CAPSTONE

Semester Hour: 1

Course provides support and mentoring for Honors Students wishing to use their Engineering Senior Design course to complete their Honors Capstone.

HON 499 - HONORS THESIS

Semester Hours: 1-3

Individual research under direction of a faculty advisor. May be taken for up to 6 semester hours of credit. Prerequisites: Admission to the Honors College.

Information Systems (IS)

IS 146 - COMPUTER APPL IN BUSINESS

Semester Hours: 3

Study of computer solutions to business problems. Overview of hardware/software systems and of data and information processing in organizations. Extensive use of Microsoft Office and other software for word processing, spreadsheet, presentation, and database applications related to business.

IS 210 - INTRO COMP PROG IN BUS

Semester Hours: 3

Fundamentals of business programming using languages such as Python, PHP, JavaScript, JQuery and HTML5. Prerequisite: IS 146.

IS 301 - INFO SYSTEMS IN ORGANIZATIONS

Semester Hours: 3

Understanding the role of information systems in organizations and how they relate to organizational objectives and organizational structure. Introduce information system applications and the SAP software to illustrate the concepts covered in this course. Prerequisite: IS 146.

IS 310 - ADVANCED PROGRAMMING

Semester Hours: 3

This second level programming course introduces advanced programming concepts with more complex I/O, file and data handling, object oriented programming, testing and quality and maintenance. The course focuses on developing solutions for business problems. Prerequisite: IS 210 or equivalent programming course.

IS 340 - DATABASE MANAGEMENT

Semester Hours: 3

Organizing and managing the data resources of an organization using information technology. The course covers modeling and design of databases for organizations. It will also cover query, reporting and visualization of data for supporting decision-making by managers. Students will be introduced to the technologies that support business analytics and basics of analytics.. Prerequisite: IS 301.

IS 351 - ENT & SUPPLY CHAIN MGT SYSTS

Semester Hours: 3

This course emphasizes the importance of integration of processes within an enterprises and across enterprises in a supply chain and the systems used to support these processes. Enterprise systems support the internal logistics chain within a firm integrating processes across all functions. Students will learn about the digital transformation taking place within the firm and across the firm's supply chain. The course will introduce students to processes and systems that firms use to harness the capabilities of their supply chain partners and supply networks. Prerequisites: IS 301.

IS 401 - CYBERSECURITY PRINCIPLES

Semester Hours: 3

Provides a managerial and technical overview of cybersecurity and introduces students to the complexity of the security issues facing organizations. Presents practices and standards for assessing security risks and managerial and technical approaches to minimize such risks. Prerequisite: IS 301.

IS 412 - SYSTEMS ANALYSIS & DESIGN

Semester Hours: 3

Identifying, analyzing, developing and acquiring information systems are central to the information systems discipline. The course covers identifying, conceptualizing and analyzing business opportunities where information systems applications can add value followed by design, development, and implementation of such applications. Planning for and management of this core IS activity is a critical organizational competence. Prerequisites: IS 301, IS 310, and IS 340.

IS 422 - SUPPLY CHAIN MANAGEMENT SYSTEM

Semester Hours: 3

This course presents the main concepts of supply chain management systems and software including ERP, CRM and SCM systems as well as the underlying technologies and managerial implications. It provides hands-on familiarity with SAP supply chain modules. Prerequisite: IS 301.

IS 450 - CYBERSECURITY MANAGEMENT

Semester Hours: 3

Examines management issues associated with cybersecurity system planning, implementation, control and assurance. Specific emphasis is on security system controls and their evaluation, compliance, governance, security policies, ethical and legal issues, and risk management. Recent developments in IT, such as client-server systems, cloud computing and the Internet, and their impact on policies, laws are also considered. Prerequisite: IS 301.

IS 460 - NETWORKING & IT INFRASTRUCTURE

Semester Hours: 3

An overview of the IT infrastructure in modern organizations. The course starts from basic networking concepts to digital platforms and ecosystems in the market. Prerequisite: IS 301.

IS 463 - DIGITAL FORENSICS

Semester Hours: 3

Provides an introduction to the area of digital forensics. Examines the problems and concerns related to Cybersecurity forensic investigations. Blends traditional investigation methods with classic systems-analysis problem-solving techniques and applies them to computing investigations. This course is lab intensive and students are expected to gain hands-on experience through learning to use various forensic software. Several information security topics nonspecific to forensics will also be covered. Prerequisite: IS 401.

IS 471 - BUSINESS ANALYTICS & AI

Semester Hours: 3

The course covers the use of data analytics to support decision-making in organizations and gain insights to support tactics and strategy. In addition to analytics, students will also be introduced to Artificial Intelligence (AI) techniques for analytics. Students will use many business analytics tools and gain experience in mining data. The course is designed to develop data-analytic thinking in the era of big data. Prerequisites: IS 301, IS 310 and MSC 288.

IS 477 - NETWORK DEFENSE & SECURITY

Semester Hours: 3

Introduction to network security issues and practical applications. Addresses translation, packet filtering, proxy servers, and firewalls, and Virtual Private Networks. This course assumes familiarity with internet and basic networking concepts such as TCP/IP, gateways, routers, and Ethernet. Prerequisites: IS 401 and IS 460.

IS 480 - CURRENT TOPICS IN MGT INFO SYS

Semester Hours: 3

Prerequisite: IS 301.

IS 490 - SPECIAL PROJECTS

Semester Hours: 3

IS 491 - IS MANAGEMENT & STRATEGY

Semester Hours: 3

This course emphasizes the integration of various principles, theories, and techniques for implementing, deploying and managing enterprise information systems in organizations to gain strategic and operational advantages. Includes lectures, tours, readings, cases, and the completion of a major project. Normally taken during a student's last semester of studies. Prerequisites: IS 340 and either IS 351 or 460. Prerequisite with concurrency: IS 412.

IS 495 - INTERN IN INFO SYSTEMS

Semester Hours: 1-3

Kinesiology (KIN)

KIN 200 - CONTEMPORARY NUTRITION

Semester Hours: 3

Introduction to the principles of nutrition as they relate to the growth, development, and maintenance of the human body throughout the lifespan. Emphasis is placed on the classes of nutrients, weight management, and nutritional planning.

KIN 205 - FIRST AID & CPR

Semester Hour: 1

Students will focus on recognizing emergency situations. First Aid and CPR also provides skills and knowledge necessary in caring for injuries or sudden illness.

KIN 210 - ATHLC INJURY PREVENTION & CARE

Semester Hours: 3

Presents the knowledge and techniques necessary to prevent and/or care for common athletic injuries. For coaches, athletes, and those working in recreation, physical education, or athletics.

KIN 215 - FIRST RESPONDER/PROFESSN'L CPR

Semester Hours: 2

Learn the concepts and skills needed to function as a First Responder and Professional Rescuer. Emphasis is placed on preparing for, recognizing, and providing emergency care in various situations where needed. Additionally, this course fully addresses the objectives in the U.S. Department of Transportation's National Standards Curriculum.

KIN 240 - HEALTH & WELLNESS CONCEPTS

Semester Hours: 3

This course provides students with an overview of individual and societal health and wellness and the impact of lifestyle choices. Laboratory experiences provide opportunity for assessment of individual health and fitness behaviors. Topics covered include: wellness, physical fitness, behavior modification, weight management, stress management, disease prevention, addictive behavior and sexual health.

KIN 250 - ESSENTIALS OF PERSONAL TRAIN'G

Semester Hours: 2

This course is designed to provide theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

KIN 260 - FOUNDATIONS OF KINESIOLOGY

Semester Hours: 3

An introductory course for students in the Kinesiology major. The course will provide an overview of the Kinesiology field, including all subdisciplines and an in-depth discussion of teacher v non-teacher career choices. The history and development of physical education, exercise science, and sport studies will be covered, as well as issues and trends in physical education, exercise science, and sport studies.

KIN 265 - INTRO TO SPORT MGMT

Semester Hours: 3

This 3 hour course provides the student with the knowledge of sport management and administration in both athletics and leisure-based sports. Topics include management concepts, roles and responsibilities, fiscal management, fundraising, legal issues, event scheduling, and decision making.

KIN 290 - EX TECHNIQUES & LEADERSHIP

Semester Hours: 3

This course provides a practical guide in leadership for group and individual exercise settings. Critical evaluation of a safe fitness environment, adult physical activity programs to promote health, and exercise techniques according to the American College of Sports Medicine and National Strength and Conditioning Association are included.

KIN 300 - NUTRITION FOR FITNESS & SPORT

Semester Hours: 3

Explores the theoretical and applied nutritional sciences as they relate to fitness and sport. Students will develop practical skills applicable to solving nutritional problems in exercising populations. Nutritional requirements and practices related to general fitness, athletic performance, and special needs individuals will also be covered.

KIN 315 - STRENGTH TRNG & CONDITION

Semester Hours: 3

This course provides a comprehensive overview of strength and athletic conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and exercise technique, program design, organization and administration, and testing and evaluation.

Additionally, this course is designed to prepare students for the nationally accredited Certified Strength and Conditioning Specialist (CSCS) certification exam. Prerequisites: KIN 210, KIN 290, KIN 327 (C or better).

KIN 327 - EXERCISE PHYSIOLOGY

Semester Hours: 3

An introduction to the response and adaptations of the body systems to exercise and physical activity. Prerequisites: KIN 260, BYS 215 and BYS 216 with a grade of C- or better Co-requisite: KIN 328.

KIN 328 - EXERCISE PHYSIOLOGY

Semester Hour: 1

Exercise physiology lab experience to accompany the introduction to exercise physiology course lectures. The course meets two hours weekly for one credit hour. Co-requisite: KIN 327.

KIN 340 - SCHOOL AND COMMUNITY HEALTH

Semester Hours: 3

Obtain information and skills related to school and community health programs with an emphasis on health instruction, strategies, and resources. Survey the components of a school health program: school health services, healthful school environment, principles of physical and movement education, nutrition services, counseling and social services, parent/community involvement, health promotion for staff. Examine the core functions of public health, prevention of diseases and injuries, health needs of special populations, and functions of various organizations.

KIN 351 - EXER TEST & PRECR HEALTHY POP

Semester Hours: 3

Provides students with techniques that evaluate aerobic capacity, muscular strength and endurance, flexibility, and body composition. The development of exercise prescriptions based on evaluation results will be emphasized. Prerequisites: KIN 327 (C- or better grade) and KIN 328.

KIN 352 - EXER TEST & PRECR SPECIAL POP

Semester Hours: 3

This advanced-level course integrates both lecture and laboratory to prepare students with the knowledge and skills necessary to conduct fitness evaluations, exercise prescriptions, and risk stratification of at-risk individuals. Specific emphasis will be placed on the administration of safe fitness testing using protocols published by ACSM for the health related components of physical fitness. Prerequisites: KIN 351.

KIN 361 - TEACHING TEAM SPORTS

Semester Hours: 3

Teaching methods and strategies of sports that require more than one participant. While knowledge of how to play the sport will be taught, emphasis will be placed on the organization, management, and assessment of skills in activities such as, but not limited to soccer, handball, and basketball.

KIN 362 - TEACHING INDIVIDUAL ACTIVITIES

Semester Hours: 3

Teaching methods and strategies for games involving individuals rather than a team. Emphasis will be placed on the organization, management, and assessment of skills in activities including, but not limited to, aerobic dance, cross country/trail running, and tumbling/gymnastics.

KIN 363 - TEACHING FITNESS & WELLNESS

Semester Hours: 3

Learn to perform and instruct a variety of fitness activities. Emphasis will be placed on performing fitness skills and on the methods and techniques for instructing and teaching specific fitness activities. Techniques for evaluating the knowledge and skills of the activities will also be stressed.

KIN 370 - ADAPTED PHYSICAL EDUCATION

Semester Hours: 3

Develop knowledge of current concepts and trends in adapted physical education as well as the ability to plan and implement a physical education program designed to meet the unique needs of individuals.

KIN 371 - ADAPTED FITNESS

Semester Hours: 3

Develop knowledge of current concepts and trends in adapted physical fitness as well as the ability to plan and implement fitness and wellness programs designed to meet the unique needs of individuals, particularly those with disabilities and special needs. Prerequisite: KIN 260.

KIN 400 - NUTRITION IN HEALTH & DISEASE

Semester Hours: 3

This course will provide students an opportunity to examine the role of epigenetics in disease development, the impact of weight stigma on health and the makeup of a healthy relationship with food and exercise. Having knowledge on the complex components that make up a person's body shape and size will allow students to more accurately assess health status. Prerequisite: KIN 200 (C- or better).

KIN 418 - STRUCTURE/FUNCTIONAL KIN

Semester Hours: 3

This course will provide development of knowledge of anatomic systems related to purposeful movement of the human body. Thorough instruction of the structure and function of musculoskeletal system will be provided. Prerequisites: BYS 215 and BYS 216.

KIN 419 - EXERCISE & SPORT BIOMECHANICS

Semester Hours: 3

This course will provide an advanced understanding of biomechanical conditions of human movement as well as knowledge and skills needed to analyze and evaluate human motor performance in order to prescribe appropriate interventions for optimized application to rehabilitation and sports performance. Students will learn to appropriately represent kinematic and kinetic quantities as vectors and use vectors, vector addition, and vector resolution to enhance the understanding of basic mechanical concepts. Prerequisites: BYS 215, BYS 216, and PH 101; and either KIN 418 or BYS 402.

KIN 421 - INST APP TO SPORT PEDAGOGY

Semester Hours: 3

This class is designed to expand and enrich the teaching repertoire. Special emphasis will be given to how selected models of teaching can be used to achieve multiple outcomes of teaching in physical education and other contexts (e.g., physical activity programs & youth sport). Additionally, the course will increase awareness in other instructional areas related to the profession (teaching underserved youth, youth sports programs, etc.). Prerequisites: KIN 361 or KIN 362 or KIN 363.

KIN 427 - ENVIRONMENTAL EXERCISE PHYSIOL

Semester Hours: 3

KIN 427 will examine how the human body responds and adapts to diverse forms of environmental stress during exercise. The course will focus on the responses and adaptations that occur from performing exercise under various environmental conditions. Prerequisite: KIN 327.

KIN 445 - PRINCIPLES OF COACHING

Semester Hours: 3

Gain knowledge and skills specific to coaching: developing a coaching philosophy and objectives, motivating athletes, managing a team. Emphasis is placed on sport at the high school and club level with consideration given to coaching youth, recreational, and intercollegiate. Coursework provides preparation for the American Sport Education Program (ASEP) Coaching Principles exam which is required by the Alabama High School Athletic Association (AHSAA).

KIN 450 - EXERCISE PHYSIOLOGY INTERNSHIP

Semester Hour: 1

Designed to provide on-site practical experience in a wellness/fitness program, physical therapy clinic, and/or a cardiac rehabilitation facility for Kinesiology-Exercise Science majors. Prerequisites: KIN 351.

KIN 451 - RESEARCH EXERCISE SCIENCE I

Semester Hours: 3

Initial capstone course (part of a two-course sequence) providing a broad and balanced background in various types of research methods and the development of a research proposal. Development of a research question, hypothesis, and research methodology. Application of computers will be used to search databases for relevant literature. Completion of an Institutional Review Board application is required. Prerequisites: KIN 351.

KIN 452 - RESEARCH EXERCISE SCIENCE II

Semester Hours: 3

Final capstone course (part of a two-course sequence) in which students must integrate and apply skills acquired throughout the program to complete a comprehensive research project. The student will complete the research project proposed in KIN 451 by recruiting research participants to collect data, writing the results and conclusions for a manuscript. Results will be prepared for publication and presented in a professional setting. Prerequisites: KIN 451 and PY 300 (with concurrency).

KIN 455 - MOTOR LEARNING

Semester Hours: 3

Study the principles and practices that affect the learning and development of motor skills; theories of motor learning, motor control, and development; lifespan motor development perspective related to performing motor and sport skills; and professional applications of motor learning and development in exercise science, athletic training, and physical education.

KIN 457 - MEASUREMNT & EVAL IN PHYS ACTV

Semester Hours: 3

Measure and evaluate learning or skill improvement based on accepted standards. Gain an understanding of the logic behind measurement instruments in order to better interpret and implement results and to achieve improved learning or physical fitness improvement. These methods of measurement and evaluation are important skills in health, physical education, and exercise science fields. Prerequisite: KIN 351 or permission of instructor.

KIN 460 - SPECIAL TOPICS KINESIOLOGY I

Semester Hours: 3

This course is intended to cover a variety of topics based on emerging topics in Kinesiology. Potential course offerings will include environmental exercise physiology, cardiovascular exercise physiology, childhood and adolescent exercise physiology, emerging topics in sport & fitness management, and expanded nutrition content. Prerequisites: KIN 327 or instructor permission.

KIN 461 - SPECIAL TOPICS KINESIOLOGY II

Semester Hours: 3

This course is developed to cover a variety of topics based on emerging topics in Kinesiology. Potential course offerings will include environmental exercise physiology, cardiovascular exercise physiology, childhood and adolescent exercise physiology, emerging topics in sport & fitness management, and expanded nutrition content. Course content will be offered in rotation. Prerequisites: KIN 327 or instructor permission.

KIN 462 - TEACHING PHYS ED IN ELEM SCH

Semester Hours: 3

Physical education teacher candidates will acquire the ability to understand, recognize, analyze, and demonstrate the range of teaching skills employed by successful physical educators in the preschool and elementary setting. Emphasis is placed on understanding the theoretical implications of different teaching skills and the contexts in which they are effective. Teacher candidates will design lessons that allow for maximum student participation while remaining aligned with Alabama Consent Standards. Field experience is required. Candidates will observe, participate in, and teach lessons in physical education classrooms. Prerequisite: Admission to the Teacher Education Program. Prerequisite: KIN 370.

KIN 463 - PSYCHOLOGICAL ASPECTS SPORT

Semester Hours: 3

Provides students with an introductory experience in sport, exercise, and fitness psychology based on the latest research and practice. Practical examples and case studies for individual and group sports are provided. The aim is to bridge science and practice to teach students the role of a sport and fitness psychologist. Prerequisites: KIN 327.

KIN 464 - HEALTH/PE FOR ELEM TEACHERS

Semester Hours: 2

The purpose of this course is to help the future elementary classroom teacher learn to appreciate, plan, organize, and conduct (if called upon to do so) a quality physical education program for children in grades pre-K-5. The pre-service teacher (PT) will be provided background knowledge about physical education content, skill themes and movement concepts, how to teach skill themes and movement concepts, and fitness concepts.

KIN 465 - TEACHING SECONDARY PE

Semester Hours: 3

Physical education teacher candidates will acquire the ability to understand, recognize, analyze, and demonstrate the range of teaching skills employed by successful educators in the secondary setting.

KIN 473 - SPORT & FITNESS MANAGEMENT

Semester Hours: 3

The course is an in-depth analysis of the relationship of sport and management. The study of sport includes sporting goods manufacturers; fitness centers; recreation departments; broadcasting; Little League teams; and high school, NCAA, and professional leagues. The study of management follows the four functions of management: planning, organizing, leading, and controlling. Prerequisite: KIN 265.

KIN 490 - EXERCISE SCIENCE INTERNSHIP

Semester Hours: 6

Designed to provide on-site practical experience in a wellness/fitness program, physical therapy clinic, and/or a cardiac rehabilitation facility for Kinesiology-Exercise Science majors. Prerequisites: KIN 351, senior standing.

Management (MGT)

MGT 100 - INTRO TO BUSINESS

Semester Hours: 1-3

Career options for students interested in business are stressed. Fundamentals of business organizations, effective management and the functions of business are explored.

MGT 101 - INTRO ENTREPRENEURSHIP

Semester Hours: 3

Introduction to the startup of a new business and the entrepreneurial career. Focuses on elementary concepts of planning, financing, developing, and managing a new business.

MGT 301 - MANAGING ORGANIZATIONS

Semester Hours: 3

Introduces management theories, roles, functions, and processes that facilitate the successful operation of organizations. Provides overviews of the following topics: managerial roles and functions, the strategic management process, organizational structure, organizational theory and behavior, and the human resource management function.

MGT 320 - CAREER DEVELOPMENT

Semester Hours: 3

Concepts drawn from theories on career development, human capital, social networks, labor markets, and strategic management will provide a theoretical foundation for students to formulate short and long-term career goals and a strategic plan for achieving those goals.

MGT 361 - ORGANIZATIONAL BEHAVIOR

Semester Hours: 3

Behavioral science approach to the study of individual performance. Performance evaluation, job design, employee turnover, organizational culture, communication process, work motivation, leadership, group dynamics, and organizational development. Prerequisite: MGT 301.

MGT 363 - HUMAN RESOURCE & LABOR REL MGT

Semester Hours: 3

Theories and practices related to human resource management functions, including strategic planning, internal and external staffing, training and development, compensation management, employee and labor relations, and international human resource management. Prerequisite with concurrency: MGT 301.

MGT 401 - INTRO TO CONTRACT MANAGEMENT

Semester Hours: 3

General survey in contracting basics, covering procedures as described by Federal Acquisition Regulations, statutes, ethics, policies, and other pertinent authorities.

MGT 402 - CONTRACT EVALUATION & AWARD

Semester Hours: 3

Study of the evaluation, award, and post-award aspects of the contracting process, focusing on federal government contracting. Covers acquisition and past performance evaluation; the proposal receipt process; and post-award contract administration, closeout, modifications, and dispute resolution. Prerequisite: MGT 401.

MGT 403 - CONTRACT PRICING & COST ANALYS

Semester Hours: 3

Study of methods of price analysis and cost estimation and analysis. Covers data sources, legal requirements, rates, definitions, projection methods, factors affecting profits/fees, the weighted guidelines technique, statistical analysis methods, and learning curve theory.

MGT 405 - NEW VENTURE STRATEGIES

Semester Hours: 3

Theory and application of strategies for start-up, operation, and control of new ventures. Roles of entrepreneurship in the economy. Case studies of corporate and independent new ventures. Prerequisite: MGT 301 and MKT 301.

MGT 408 - TEAMWORK & TEAM PROCESSES

Semester Hours: 3

This course provides an introduction to teams and teamwork processes. The foundation of the course is research-based; topics will be approached from the context of empirical research. The types of research designs that are typically used in team research are addressed. Junior standing required.

MGT 410 - LEADERSHIP, PERSONAL DEV & ORG

Semester Hours: 3

The focus of this course is on the in-depth self-examination of skills, ability, personality, attitudes, values and behavior to increase self-awareness of leadership competencies. Students will also examine theories of leadership to develop insights for their personalized leadership development. Prerequisite: MGT 301.

MGT 411 - SUPPLY CHAIN MANAGEMENT

Semester Hours: 3

A study of problems and practices of operations and materials management. Topics include: materials acquisitions, inventory systems, demand management, aggregate planning, materials, logistics systems and current topics. Prerequisite: MSC 287.

MGT 450 - INTERNATIONAL BUSINESS

Semester Hours: 3

Explores the economic, social, political, cultural, and legal environment of global business operations and considers how environmental effects on business programs and strategies. Relies on a variety of conceptual, methodological and application perspectives. Prerequisite: MGT 301, MKT 301, and FIN 301.

MGT 460 - EMPLOYEE STAFFING & DEVELOP

Semester Hours: 3

The study of employee staffing and development concepts, issues and tools. Topics include forecasting staffing needs, recruitment strategies, development and validation of selection procedures, placement, socialization and development of employees, and the utilization of contingent workers. Prerequisite: MGT 363.

MGT 461 - STRATEGIC COMPENSATION MGMT

Semester Hours: 3

Introduction to management of employees' compensation. Overview of compensation practices, behavioral and economic theories of compensation, and research on compensation programs. Prerequisites: MSC 287 and MGT 363.

MGT 462 - EMPLOYMENT LAW FOR MANAGERS

Semester Hours: 3

The study of government regulation of the management of human resources. Examines employer responsibilities and employee rights under federal state law pertaining to separations, discrimination, compensation and other terms of employment, worker safety and health, privacy, and unions.

MGT 470 - SPEC TOPICS SEMINAR IN MGMT

Semester Hours: 3

In-depth study of a selected topic relevant to contemporary management. Different sections of this course may address different topics.

MGT 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Active involvement in an on-going project in a business enterprise that has particular interest and relevance to the student, or an in-depth investigation of contemporary management problems. Approval of department chair is required.

MGT 494 - PRACTICUM IN MANAGEMENT

Semester Hours: 3

Student teams will apply management concepts and skills in a semester-long business simulation or management project conducted for a client firm or non-profit. The teams will be closely supervised by a faculty member with expertise related to the simulation or project. Prerequisite: MGT 301, MSC 287, and MSC 288.

MGT 495 - INTERNSHIP IN MANAGEMENT

Semester Hours: 1-3

Under the direction of a faculty advisor, experience is gained with an entrepreneur in a small business firm or a manager in a large firm. Subject to College's guidelines on internships.

MGT 499 - COMPETITIVE STRATEGY

Semester Hours: 3

Addresses formulation & implementation of business/corporate level strategies: defining the mission, setting goals and objectives, analyzing current operating conditions and the organization's environment, and setting a unified strategic direction. Recommended taking during final semester of degree. Upper division standing required. Student must obtain a grade of C or higher. Prerequisite: MGT 301, MKT 301, FIN 301, IS 301, MSC 385 and either (EH 300 or EH 301).

Management Science (MSC)

MSC 287 - BUSINESS STATISTICS I

Semester Hours: 3

Introduction to probability and business statistics. Covers: tabular, graphical, and numerical methods for descriptive statistics; measures of central tendency, dispersion, and association; probability distributions; sampling and sampling distributions; and confidence intervals. Uses spreadsheets to solve problems. Prerequisite: Any 100 level MA course.

MSC 288 - BUSINESS STATISTICS II

Semester Hours: 3

Inferential statistics for business decisions. Topics include: review of sampling distributions and estimation; inferences about means, proportions, and variances with one and two populations; good of fit tests; analysis of variance and experimental design; simple linear regression; multiple linear regression; non parametric methods. Prerequisite: MSC 287.

MSC 385 - OPERATIONS ANALYSIS

Semester Hours: 3

Survey of the firm's production function and quantitative tools for solving production problems, quality management, learning curves, assembly and waiting lines, linear programming, inventory, and other selected topics (e.g., scheduling, location, supply chain management). Uses the SAP software. Prerequisite: MSC 288.

MSC 410 - TRANSPORTATION & LOGISTICS

Semester Hours: 3

An analysis of transportation and logistical services to include customer service, distribution operations, purchasing, order processing, facility design and operations, carrier selection, transportation costing, and negotiation. Prerequisite: MKT 301.

MSC 411 - SUPPLY CHAIN MANAGEMENT

Semester Hours: 3

Supply chain management focuses on networks of companies that deliver value to customers. The course focuses on understanding integrated supply chains and examines how product development and design, demand, marketing, globalization, customer locations, distribution networks, suppliers and ERP systems impact a company's supply chain design. Prerequisite: MSC 287.

MSC 412 - ARMY SENIOR LOGISTICIAN-ADV

Semester Hours: 3

The Senior Logistician Advanced Course (SLAC) is part of the U.S. Army's Master Logistician Certificate Program for logistics management specialists within the 0346 occupational series. SLAC is an 80-hour academic learning experience designed to improve senior logistician competencies at the strategic level. The program is organized around the logistics management specialist's 12 competencies, and the coursework is specially designed to better develop and further enrich the thinking and skills of the Army's Senior Logisticians. Special approval and enrollment in CPCS U.S. Army Senior Logistician Advanced Course required.

MSC 470 - SPECIAL TOPICS IN MGMT SCI

Semester Hours: 3

In depth study of a selected topic relevant to contemporary management science. Different sections of this course may address different topics.

MSC 490 - SPECIAL PROJECTS

Semester Hours: 3

Independent study in an area of interest to the student in the field of management science. Approval of department chair is required.

MSC 494 - PRACTICUM IN MANAGEMENT SCIENC

Semester Hours: 3

Student teams will apply management science concepts and skills in a semester-long simulation or management science project conducted for a client firm or non-profit. The teams will be closely supervised by a faculty member with expertise related to the simulation or project. Prerequisite: MSC 287, MSC 288 and MSC 385.

MSC 495 - INTERN IN MGMT SCIENCE

Semester Hours: 3

Active involvement in a project in a business enterprise, professional organization or in a government agency that has particular interest and relevance to the student. Subject to College's guidelines on internships.

Marine Science (MS)

MS 202 - MARINE BIOLOGY

Semester Hours: 4

Survey of invertebrates, vertebrates, and marine plants as communities with local examples. Examination of marshland, estuarine, beach, dune, inlet and neritic habitats, and niches. Lecture/Lab/field work. Offered only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, AL. Prerequisites: BYS 119 and BYS 120.

MS 204 - COM MARINE FISHERIES/ALA

Semester Hours: 2

Biology, harvesting technology, and processing of commercially valuable fish and shellfish species of Alabama. Offered only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama. No credit for biological sciences major or minor; can be used for marine science minor.

MS 301 - MARINE TECH METHODS I

Semester Hours: 2

Marine science research equipment, methods, and techniques. Operation and field maintenance of major sampling gear. Only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama. No credit for biological sciences major or minor; can be used for a marine science minor. Prerequisites: BYS 119 and BYS 120.

MS 303 - COASTAL CLIMATOLOGY

Semester Hours: 2

Physical factors resulting in climatic conditions in and near coastal region. Emphasis on northern Gulf of Mexico. Only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama. No credit toward a biological sciences major or minor; can be used for a marine science minor.

MS 304 - COASTAL ZONE MANAGEMENT

Semester Hours: 2

Examination of ecological features and physical management policies design for coastal communities and a review of the federal and state programs that impinge upon coastal ecological communities. Only at the Marine Environmental Sciences Consortium Sea Lab at Dauphin Island, Alabama.

MS 491 - SPECIAL TOPICS IN MARINE SCIEN

Semester Hours: 1-4

Marketing (MKT)

MKT 301 - PRINCIPLES OF MARKETING

Semester Hours: 3

Integration of professional selling techniques and concepts with sales management problems. Addresses objectives and policies for managing a sales force; market analysis methods used for sales forecasts and budgeting; and problems faced by sales management in competition, pricing, and promotions.

MKT 315 - SALES MGT/PROF SELLING

Semester Hours: 3

Integration of techniques and concepts of professional selling with problems of sales management. Objectives and policies for sales managers concerning managing sales force and methods of marketing analysis in terms of sales forecasts and budgeting. Problems faced by sales management in competition, pricing, and promotion. Prerequisite: MKT 301.

MKT 316 - RETAILING POLICY/MGT

Semester Hours: 3

Policies, practices, and problem solutions in efficient operation of chain and independent retail stores. Store location, organizational layout, merchandise planning and control, buying, pricing, and promotion.

MKT 332 - BUYER BEHAVIOR

Semester Hours: 3

Interdisciplinary and organizational approach to analyze and interpret consumer buying habits and motives and the resultant purchases of goods and services. Purchaser's psychological, economic, and sociocultural actions and reactions as they relate to better understanding of consumption. Prerequisite: MKT 301.

MKT 342 - PROMOTIONAL STRATEGY

Semester Hours: 3

Promotional techniques available to marketing management. Consumer behavior and communication process by which products can be effectively promoted. Specific tools of personal selling, advertising, sales promotion, and publicity as components of overall promotional strategy. Prerequisite: MKT 301.

MKT 343 - MARKET RESEARCH DESIGN

Semester Hours: 3

Introduction to the principles and purposes of marketing research; relationship to other marketing functions and data sources. Application of the principles and purposes of marketing research; qualitative research methods, experimental design, survey and questionnaire design, sampling procedures, and data analysis. Prerequisites: MKT 301 and ((MSC 287 and MSC 288) or CM 370 or PY 300 or SOC 303).

MKT 344 - DIGITAL MARKETING ANALYTICS

Semester Hours: 3

Introduction to digital initiatives and data-informed decision-making; evaluate strategic analytics plans, gather structured and unstructured data, analyze large digital data sets, and utilize data-driven insights. Prerequisite: MKT 301 and ((MSC 287 and 288) or CM 370 or PY 300 or SOC 303).

MKT 345 - MKT CHANNEL STRUCT & STRATEGY

Semester Hours: 3

Marketing channels as a functional area and the alternative choices available to marketing management in developing overall marketing strategy. Institutional structures and dynamic interrelationships in distribution logistics.

MKT 350 - MARKETING EMERGING TECHNOLOGY

Semester Hours: 3

Comprehensive review of the new product development and marketing process. Emphasizes actual case examples showing how companies develop and market radically new products. Prerequisite: MKT 301.

MKT 405 - NEW VENTURE STRATEGIES

Semester Hours: 3

Theory and application of both marketing and management strategies for start up, operation and control of new ventures. The course also discusses the role of entrepreneurship in the economy. Prerequisite: MKT 301 and MGT 301.

MKT 415 - INTERNATIONAL MARKETING

Semester Hours: 3

Procedures and problems associated with establishing and carrying out marketing operations in or with foreign companies. Institutions, principles, and methods involved in solving these business problems. Effect of national differences in business practices and regulation. Prerequisite: MKT 301.

MKT 420 - SERVICES MARKETING

Semester Hours: 3

Addresses the challenge of delivering quality service to customers. Focuses on organizations whose core products are services (e.g., banks, hospitals, non-profit organizations) or which depend on service excellence for competitive advantage. Prerequisite: MKT 301.

MKT 465 - MARKETING FOR NEW VENTURES

Semester Hours: 3

The goal is to provide a solid background with practical application of theories, concepts, and techniques at the interface of entrepreneurship and marketing. Student will learn the cutting-edge development in entrepreneurial practices with hands-on experience. The course will rely on class discussion, case analysis, and group project on marketing for entrepreneurs. Prerequisite: MKT 301 and FIN 301.

MKT 470 - SOCIAL MEDIA MARKETING

Semester Hours: 3

The course focuses on how to meet the challenge of brand building in a digital age. It aims to foster the students' acquisition of social media marketing skills, equipping them with relevant knowledge of how to incorporate social media into marketing strategy thus enhancing value to both companies and customers. As future marketers, students will learn how to adopt a customer centric approach to their future marketing tasks, and be guided through a number of hands-on assignments that are immediately applicable to marketing practices. Prerequisite: MKT 301.

MKT 475 - ADVANCED MARKETING SEMINAR

Semester Hours: 3

Investigation of advanced marketing topics that are relevant to contemporary marketing practices. The course will focus on current issues related to marketing in a high technology environment, relationship marketing, channel design and strategy, transportation, and logistics. Prerequisite: MKT 301.

MKT 480 - MARKETING MANAGEMENT

Semester Hours: 3

Study of management of marketing function. Addresses setting objectives, organization and control of marketing resources in coordination with other functional areas, identification and selection of market opportunities, competitive strategies, and development of marketing policies and programs. Prerequisite: MKT 301, MKT 332 (with concurrency).

MKT 490 - SPECIAL PROJECTS

Semester Hours: 1-3

Independent study in an area of interest to the student in the field of marketing. Approval of Dept. Chair required.

MKT 494 - PRACTICUM IN MARKETING

Semester Hours: 3

MKT 495 - INTERN IN MARKETING

Semester Hours: 1-3

Active involvement in an project in a business enterprise, professional organization or in a government agency that has particular interest and relevance to the student. Course grade will be given on a satisfactory (S)/unsatisfactory (U) basis. Subject to College's guidelines on internships.

Mathematics (MA)

MA 105 - NATURE OF MATHEMATICS

Semester Hours: 3

The course explores mathematical ideas that historically led to the development of major branches of mathematics. Conceptual understanding and real-world problem solving will be emphasized. Topics may include world of numbers, infinity, chance, foundations of statistics, and mathematical aesthetics. MA 105 cannot be used to fulfill prerequisite requirements for any mathematics course.

MA 107 - ALGEBRA WITH APPLICATIONS

Semester Hours: 3

Algebra review, functions and graphs, linear models, exponential logarithmic functions, mathematics of finance, sets and probability. Prerequisites: Level 1 placement for MA 107 and Level 0 placement for MA 107L. No credit given to students who have received credit for another MA course.

MA 107S - ALGEBRA W/APPLICATIONS S-SECT

Semester Hours: 3

This course offers all of the Algebra with Applications curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: math placement level 0.

MA 110 - FINITE MATHEMATICS

Semester Hours: 3

Algebra review, elementary functions, matrices, logic, sets, counting, and an introduction to probability and statistics. MA 110 is an AGSC core course. Prerequisites: Level 1 placement for MA 110 and Level 0 placement for MA 110L.

MA 110S - FINITE MATHEMATICS S-SECTION

Semester Hours: 3

This course offers all of the Finite Mathematics curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: Math placement level 0.

MA 112 - PRECALCULUS ALGEBRA

Semester Hours: 3

Real number systems, exponents, radicals, factoring, absolute value, inequalities, function notation, functions, inverse functions, graphing techniques, polynomial and rational functions, operations with complex numbers, conic sections, and theory of equations. Prerequisites: Level 1 placement for MA 112 and Level 0 placement for MA 112L.

MA 112S - PRECALCULUS ALGEBRA S-SECTION

Semester Hours: 3

This course offers all of the Pre-Calculus Algebra curriculum with the addition of remedial material. This course is 3 credit hours, but meets 5 days per week. The S-section is intended for students with math placement 0. Prerequisite: math placement level 0.

MA 113 - PRECALCULUS TRIGONOMETRY

Semester Hours: 3

Exponential and logarithmic functions, trigonometric functions of angles and real numbers, graphing trigonometric functions, inverse trigonometric functions, solving trigonometric equations, verifying identities, laws of sines and cosines, vectors, trigonometric form of complex numbers, DeMoivre's theorem, summation notation, arithmetic and geometric sequences and series. Prerequisites: Level 2 placement or MA 112 with a grade of C or better. No credit given to students who have completed a MA course numbered above MA 113. MA 113 is an AGSC core course.

MA 115 - PRECALCULUS ALGEBRA & TRIG

Semester Hours: 4

The algebra of functions, including polynomial, rational, exponential, and logarithmic functions; systems of equations and inequalities; trigonometric and inverse trigonometric functions; trigonometric identities and equations; a brief introduction to DeMoivre's Theorem, vectors, polar coordinates, and the binomial theorem. This course is intended for students who plan to take at least MA 171 (Calculus A) but who do not need the full two-semester sequence in precalculus (MA 112, 113). MA 115 is an AGSC core course.

MA 120 - MATH PROFESSIONAL APPLICATIONS

Semester Hours: 3

Limits, continuity, differentiation, applications of the derivative, integration, the fundamental theorem of calculus, applications of the integral. Prerequisites: MA 107, MA 107S, MA 112, or MA 112S with a grade of C or better, or Level 2 placement. No credit given to students who have already received credit for a calculus course. MA 120 is an AGSC core course.

MA 171 - CALCULUS A

Semester Hours: 4

Limits, derivatives, applications of the derivative, definite and indefinite integrals, exponential and logarithmic functions, and inverse functions. Prerequisites: MA 113 or MA 115 with a grade of C or better, or Level 3 placement.

MA 171R - CALCULUS A RECITATION

Semester Hours: 0

Extension of MA 171. Review of previous math skills needed for success. Homework discussed; examination preparation, review of homework and examination tutoring and individual consultation.

MA 171S - CALCULUS A S-SECTION

Semester Hours: 4

This course offers all of the Calculus A curriculum with the addition of trigonometry review. The course is 4 credit hours but meets five days per week. The S-section of Calculus A is intended for students with math placement level 2 but who are willing to put in extra time and effort to study trigonometry along with all of the requirements for MA 171. Prerequisite: MA 113 or math placement level 2.

MA 172 - CALCULUS B

Semester Hours: 4

Techniques of integration, applications of the integral, polar coordinates, sequences, series, and conic sections. Prerequisites: MA 171 with a grade of C or better.

MA 181 - INTRODUCTION TO STATISTICS

Semester Hours: 3

This course is designed for non-science majors. The course is designed to provide an introduction to qualitative and quantitative statistics for research methods. The course also utilizes lab activities to instill in students working knowledge of Excel and other software statistics programs.

MA 201 - CALCULUS C

Semester Hours: 4

Vectors, vector-valued functions, partial derivatives, multiple integrals, vector fields, line and surface integrals. Prerequisites: MA 172 with a grade of C or better.

MA 230 - MATH FOR ELEMENTARY TEACHERS

Semester Hours: 3

The course emphasizes the use of logical thinking in mathematics and the development of students' understandings of algorithm design. Directed at providing the elementary education student the mathematical background necessary for an understanding of the mathematical principles that are introduced to children in the elementary grades. Emphasis on sets, logic, an understanding of the number systems (integers, fractions, decimals, percents) and number theory. Prerequisites: Two MA courses at the 100 level or above, each with a grade of C or better. Open only to students majoring in elementary education.

MA 231 - MATH FOR ELEM SCH TCHERS II

Semester Hours: 3

Rational numbers, real numbers, algebra, statistics, probability, geometric shapes, measurement, and geometry (using triangle congruence and similarity, coordinates, and transformations). Prerequisites: MA 230 with a grade of C or better.

MA 238 - APPL DIFFERENTIAL EQUATIONS

Semester Hours: 3

This course provides an elementary introduction to the techniques and necessary theory for solving the basic differential equations usually encountered by beginning science and engineering students. General topics include analytical and graphical methods for solving and analyzing first order differential equations; Euler's numerical method; the basic theory of higher-order, linear differential equations, with major emphasis on equations with constant coefficients; variation of parameters; the Laplace transform as a tool for solving differential equations. MA 238 is an AGSC core course. Prerequisites: MA 172 & MA 201 with concurrency.

MA 244 - INTRO TO LINEAR ALGEBRA

Semester Hours: 3

Systems of linear equations, matrices, matrix operations, determinants, vector spaces, bases, dimension of a vector space, inner product, Gram-Schmidt process, linear transformations, change of basis, similar matrices, eigenvalues and eigenvectors, diagonalization, symmetric matrices, and applications. Prerequisites: MA 120 or MA 172.

MA 281 - ELEMENTS OF STATISTICAL ANALYSIS

Semester Hours: 3

Descriptive statistics, fundamentals of probability theory, fundamentals of statistical inference, including estimation and hypothesis testing, and use of a typical statistical package such as MINITAB. Prerequisites: MA 113, or MA 115, or Level 2 Placement.

MA 299 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for inquisitive and well prepared sophomore-level undergraduate students. No credit allowed toward major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

MA 301 - INTRO ELEMENTARY NUMBER THEORY

Semester Hours: 3

Fundamental properties of integers, divisibility, linear Diophantine equations, congruency, Euler function, Chinese Remainder Theorem, Fermat Theorems, Wilson Theorem, and applications to Cryptography. Prerequisite: MA 244.

MA 330 - FOUNDATIONS OF MATH

Semester Hours: 3

Symbolic logic and methods of proof, set theory, combinations and permutations, equivalence relations and functions, mathematical induction and recurrence relations, cardinality (finite, countably infinite, and uncountable sets), and decimal representation of the rational and real numbers. Prerequisites: MA 172 and MA 244.

MA 385 - INTRO TO PROBABILITY & STATIST

Semester Hours: 3

This course is a calculus-based introduction to probability with special emphasis on the interplay between probability and statistics. Topics include descriptive statistics; probability spaces; discrete distributions (including the binomial, geometric, hypergeometric, and Poisson); continuous distributions (including the uniform, exponential, and normal); joint distributions; mean, variance, and general expected value; independence and correlation; the law of large numbers; and the central limit theorem. Prerequisites: MA 201 with grade of C- or better.

MA 399 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for inquisitive and well prepared junior-level undergraduate students. No credit allowed toward a major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

MA 415 - INTRO NUMERICAL METHODS

Semester Hours: 3

Derivation and analysis of approximate methods for the solution of nonlinear equations, interpolation and integration of functions, and techniques for the solution of systems of linear equations and for approximating solutions of elementary differential equations. Emphasis is placed on obtaining an intuitive understanding of both the problem at hand and the numerical method used to solve it. Prerequisites: MA 201, MA 244, and CS 121.

MA 420 - INTERM DIFFERENTIAL EQUATIONS

Semester Hours: 3

This is a second course in differential equations. Course topics include series solutions for second order differential equations and the method of Frobenius; eigenvalue and eigenvector methods for solving systems of linear first order equations; the qualitative theory of nonlinear equations; boundary value problems and the Sturm-Liouville theory. Prerequisites: MA 201, MA 244 and MA 238.

MA 433 - INTRODUCTION TO GEOMETRY

Semester Hours: 3

Axiomatic development of geometry, introduction to non-Euclidean geometries with emphasis in elliptic and hyperbolic geometries, selected topics in Euclidean geometry. Prerequisites: MA 172 and Either MA 201 or MA 244.

MA 442 - ALGEBRAIC STRUCTURES W/APPLIC

Semester Hours: 3

Mappings, binary operations, equivalence relations, groups and subgroups, Lagrange's theorem, homomorphisms and isomorphisms, normal subgroups and quotient groups, rings, fields, ordered integral domains, fields of quotients, error correcting codes, linear codes, and decoding. Prerequisites: MA 244 and either MA 330 or 385.

MA 450 - COMBINATORIAL ENUMERATION

Semester Hours: 3

Counting, pigeonhole principle, permutations and combinations, generating functions, principle of inclusion and exclusion, Polya's theory of counting. Prerequisite: MA 385 or MA 442 (with concurrency).

MA 452 - INTRO TO REAL ANALYSIS

Semester Hours: 3

Sequences, limits, continuity, differentiation of functions of one real variable, Riemann integration, uniform convergence, sequences and series of functions, power series, and Taylor series. Prerequisites: MA 330.

MA 453 - INTRO TO COMPLEX ANALYSIS

Semester Hours: 3

Complex algebra, analytic functions, Cauchy-Riemann equations, exponential, trigonometric, and logarithmic functions, integration, Cauchy integral theorem, Morera's theorem, Liouville's theorem, maximum modulus theorem, residue theory, Taylor and Laurent series, and applications. Prerequisites: MA 201 and one MA course at 300 level or above.

MA 456 - METHODS OF PARTIAL DIFF EQUA

Semester Hours: 3

Survey of theory and methods for solving elementary partial differential equations. Topics include first-order equations and the method of characteristics, second-order equations, reduction to canonical form, the wave equation, the heat equation, Laplace's equation, separation of variables, and Fourier series. Prerequisites: MA 238 and MA 244.

MA 458 - APPLIED LINEAR ALGEBRA

Semester Hours: 3

Fundamental concepts of linear algebra are developed with emphasis on real and complex vector spaces, linear transformations, and matrices. Systems of equations, inverses of matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, normal matrices, canonical forms of matrices, applications of systems of linear differential equations, and use of computer software such as MATLAB. Prerequisites: MA 238 and MA 244.

MA 460 - INTRO FOURIER ANALYSIS

Semester Hours: 3

Brief development of trigonometric and exponential Fourier series, derivation of the classical Fourier transform from series, classical properties of Fourier transforms, transforms of functions, convolution, elementary development of the delta function, transforms of periodic functions, use of transforms to solve systems, introduction to the discrete transform and/or multidimensional transforms, as time permits. Prerequisites: MA 238 and MA 244.

MA 465 - INTRO TO MATH MODELING

Semester Hours: 3

Applying mathematics by formulating, analyzing, and criticizing mathematical models of various phenomena. Examples will be chosen from the physical, biological, and social sciences. Emphasizes development and use of simple mathematical models by having student study general modeling principles and case studies (some open-ended) drawn from various sources. Prerequisites: MA 201, MA 238, and MA 244.

MA 487 - INTRO TO MATH STATISTICS

Semester Hours: 3

This is an introductory, calculus-based course in mathematical statistics. Topics include a review of basic probability, including probability spaces, independence, distributions and expected value; the fundamental theorems of probability, including the law of large numbers and the central limit theorem; estimation, including point estimation and interval estimates for means, variances, and proportions; hypothesis testing, including tests for means, variance, and goodness of fit; an introduction to correlation and regression; theory of inference, including sufficiency and power. Prerequisites: MA 201 and either MA 385 or ISE 390.

MA 490 - SEL TOP UNDERGRAD MATH

Semester Hours: 1-3

Requested undergraduate topics. Approval of instructor required.

MA 499 - MATHEMATICS PROJECT

Semester Hour: 1

Individualized special projects in mathematics and its applications for superior undergraduate students. No credit is allowed toward a major or minor in mathematics. S/U grading. Approval of department chair and instructor required.

Mechanical & Aerospace Engineering (MAE)

MAE 115 - INTRODUCTION TO MACHINING

Semester Hour: 1

Safety and familiarity with the machine shop environment, equipment, tools, and practices. Correlate student design with consequences of design choice. Basic turning, milling, welding, and sheet metal operations. Programming and operation of numerically controlled machines.

MAE 200 - PRINC AERONAUTICS & ASTRONAUTI

Semester Hours: 3

Fundamental concepts of aerospace engineering including the history of flight, standard atmosphere, fluid and flow properties, lift and drag, propulsion, and structures; elementary aircraft performance, stability and control; basic astronautics and space environment; and aerospace vehicle design. Prerequisites: PH 111, EGR 101, MA 172. Prerequisite with concurrency: MAE 211.

MAE 211 - INTRO COMPUTATIONAL TOOLS

Semester Hours: 2

Computer-aided design and solid modeling concepts including: model definition through constraints and dimensioning, and development of subassemblies and assemblies. Prerequisites: EGR 101 and MA 171.

MAE 271 - STATICS

Semester Hours: 3

Topics include: forces, resultant forces, moments, couples equivalent force systems, equilibrium, distributed loads, two force members, trusses, centroids, moments of inertia, shear and bending moment diagrams, static and kinematic friction. (Same as CE 271) Prerequisites: PH 111, and ENG 101 Prerequisites with Concurrency: MA 201.

MAE 272 - DYNAMICS

Semester Hours: 3

Kinematics and kinetics of a particle and of systems of particles with applications to central force motion, impact, relative motion, vibrations, and variable mass systems. Dynamics of rigid body in plan motion, relative motion in rotating coordinates, and gyroscopic motion. (Same as CS 362) Prerequisites: (CE 271 or MAE 271) and MA 201.

MAE 284 - NUMERICAL METHODS

Semester Hours: 3

Use computational tools to solve mathematical problems of engineering interest. Discussion and application of root finding and optimization techniques. Other topics include curve fitting, Gauss Elimination, LA decomposition, and Cholesky decomposition, numerical integration and numerical differentiation. Solving initial and boundary value problems. Course includes a lab experience using modern computational tools. Prerequisites: MA 244, EGR 101, MAE 211 and MA 238.

MAE 284L - NUMERICAL METHODS LAB

Semester Hours: 0

MAE 299 - MAE MENTORING I

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisite w/ concurrency: MAE 271.

MAE 310 - FLUID MECHANICS I

Semester Hours: 3

Fluid properties and fundamental principles governing fluid behavior. Fluid statics, basic equations in integral form and differential form, potential flow, dimensional analysis, and internal incompressible viscous flows. Prerequisites: (CE 271 or MAE 271) and MA 238.

MAE 311 - PRIN MEASUREMENT & INSTRUMEN

Semester Hours: 3

Instrumentation and techniques for measurement of mechanical phenomena. Calibration, standards, computerized data acquisition, error analysis, signal conditioning, dynamic response, and experimental design. Laboratory included. Prerequisites: EE 213 and MAE 284.

MAE 311L - PRINC MEASUREMENT & INSTR LAB

Semester Hours: 0

MAE 330 - FUNDAMENTALS AERODYNAMICS

Semester Hours: 3

Fundamentals of incompressible flow, conservation laws, potential flow, similarity, airfoil and finite wing lift and drag, thin airfoil and panel methods, introduction to viscous flows and boundary layers, and modern airfoil and wing design. Prerequisites: MAE 200, MAE 272 and MA 238 (all with minimum grade of C-). Corequisite: MAE 331.

MAE 330L - LABORATORY

Semester Hours: 0

This lab is a 0 credit lab component of the 4 credit MAE 330 course.

MAE 331 - AERODYNAMICS LAB

Semester Hour: 1

Demonstration of fundamental aerodynamic principles through wind tunnel testing including comparison of theory to experimental results. Corequisite: MAE 330.

MAE 341 - THERMODYNAMICS I

Semester Hours: 3

Basic laws of energy that apply in all branches of engineering and science. Properties of matter, state variables, reversible processes, first and second laws of thermodynamics with applications to closed and open systems. Availability of energy and irreversibility. Prerequisites: CH 121, PH 112, and MA 201.

MAE 342 - THERMODYNAMICS II

Semester Hours: 3

Continuation of MAE 341. Thermodynamic cycles, thermodynamic relations among properties, chemical reactions, and phase and chemical equilibrium. Prerequisites: MAE 341 and MA 238.

MAE 343 - COMPRESSIBLE AERODYNAMICS

Semester Hours: 3

Compressible flow including area change, friction, and heat transfer. Fundamentals of acoustic waves, 1- and 2-D shock and expansion waves, shock-expansion theory, and linearized flow with applications to inlets, nozzles, wind tunnels, and supersonic flow over aerodynamic bodies and wings. Prerequisites: MAE 200, MAE 341 and MA 238 (all with minimum grade of C-).

MAE 345 - HONORS THERMODYNAMICS COLQ

Semester Hour: 1

Students in this course will be expected to participate in assigned readings and discussions to develop an understanding of the context behind the fundamental concepts and principles of thermodynamics. Through reflections students will be encouraged to apply this knowledge to develop their own creative ideas. Prerequisites with concurrency: MAE 341 or CHE 344.

MAE 364 - KINEMATICS/DYNAM MACHINE

Semester Hours: 3

Kinematics and dynamics of planar machinery including principles of mechanisms, cam design, gears and epicycle gear trains, determination of velocity and acceleration in mechanisms. Inertia forces in machines, balancing of rotating masses and reciprocating masses, and vibration analysis. Prerequisites: MAE 211 and (MAE 272 or CE 272).

MAE 364L - KINEMATICS/DYN MACHINE LAB

Semester Hours: 0

MAE 370 - MECHANICS OF MATERIALS

Semester Hours: 3

Design and analysis of simple structures for predetermined strength and deformation requirements. Topics include: theory of stress-strain, Hooke's Law, analysis of stresses and deformations in bodies loaded by axial, torsional, bending, and combined loads, and analysis of statically indeterminate systems. Same as MAE 370. Prerequisites: (CPE 211 or MAE 211) and (MAE 271 or CE 271) and MA 244, corequisite MAE 375.

MAE 370L - LABORATORY

Semester Hours: 0

MAE 371 - AEROSPACE STRUCTURES

Semester Hours: 3

Analysis and design of lightweight aerospace structures including sandwich structures, stiffened panels, and tubing stress and deflection analysis. Design of members in tension, torsion, and bending. Space structures. Prerequisites: MAE 200 and (MAE 370 or CE 370).

MAE 375 - MECHANICS OF MATERIALS LAB

Semester Hour: 1

Experimental verification of material properties and structural deformation under axial, torsional, and bending loads. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. (Same as CE 375). Corequisites: MAE 370.

MAE 378 - MATERIALS & MFG PROCESS

Semester Hours: 3

Engineering properties of materials, sources of information for properties of materials, cost considerations for material selection, manufacturing processes, casting, forming, machining, cost considerations for machining operations. One or more field trips included. (Same as ISE 378). Prerequisites: MAE 370 or CE 370.

MAE 395 - SEL TOPICS:MECH & AEROSPACE EG

Semester Hours: 1-3

Special topics in Mechanical or Aerospace Engineering.

MAE 399 - MAE MENTORING II

Semester Hours: 0

Yearly mentoring and advising from engineering faculty and staff. Prerequisites: MAE 299 and MAE 272.

MAE 425 - DESIGN OF MACHINE ELEMENTS/A&M

Semester Hours: 3

MAE 440 - ROCKET PROPULSION I

Semester Hours: 3

Introduction to the operation, analysis, and design of liquid and solid rockets. Incorporates design and realization of a thermal system, in which students work in teams to design a rocket motor or component. Prerequisite: MAE 343.

MAE 441 - AIRBREATHING PROPULSION

Semester Hours: 3

Air breathing propulsion systems with emphasis on gas turbine engines for air-and rotor-craft. Includes thermodynamic power cycles, components design, and engine performance analysis. Incorporates a turbine engine design and realization team project. Prerequisite: MAE 343.

MAE 444 - INTRO TO ELECTRIC PROPULSION

Semester Hours: 3

Elements of electrically-driven rocket propulsion for applications from low earth orbit to the outer planets will be discussed. The physics of ionizing and heating gases and plasmas for electrothermal, electrostatic and electromagnetic acceleration will be studied. Characteristics of Resistojet, Arcjet, Magnetoplasmadynamic thrusters, Electrothermal, Pulsed plasma, Electrostatic, and Hall thrusters will be covered. Review thruster system performance, power requirements and selection for space missions. Overview of current research efforts, including thruster systems, physics, and performance. Prerequisite: MAE 420.

MAE 449 - AEROSPACE LABORATORY

Semester Hours: 2

Experimental investigation of aerospace structures, airfoils and bodies in subsonic flow, and performance of various aerospace propulsion systems. An experiment design project is included. Concurrent registration in MAE 449L is required.

MAE 450 - INTRO TO HEAT & MASS TRANSFER

Semester Hours: 3

Principles of heat and mass transfer; application of principles to problems in conductive, convective, and radioactive heat transfer and mass transfer; laminar and turbulent flow processes; boiling and condensation; heat exchangers. Prerequisites: MAE 283, MAE 311, MAE 341 and (MAE 310 or MAE 330). Corequisite: MAE 451.

MAE 450L - INTRO HEAT & MASS TRANSFER LAB

Semester Hours: 0

MAE 451 - HEAT & MASS TRANSFER LAB

Semester Hour: 1

Experimental measurements and analysis of heat and mass transfer mechanisms, processes and systems. Test procedures, use of instrumentation, interpretation of experimental results and comparison to theory. Corequisite: MAE 450.

MAE 455 - DESIGN OF THERMAL SYSTEMS

Semester Hours: 3

Heat transfer, thermodynamics, and fluid mechanics applied to analysis and design of systems for storage and transport, and exchange of thermal energy. Modeling of thermal equipment, simulation of system performance, optimization of system design, and comprehensive design of thermal systems. Prerequisites: MAE 342 and MAE 450.

MAE 461 - VIBRATIONS ELASTIC SYS

Semester Hours: 3

Formulation of the equations of motion of discrete and continuous systems, analytical and numerical methods of solution, eigenvalue problems and dynamic response. Prerequisite: MAE 488.

MAE 463 - INTERMEDIATE DYNAMICS

Semester Hours: 3

Kinematics and dynamics of particles, system of particles, and rigid-bodies. Variational principles and Lagrangian mechanics. Prerequisites: MAE 272 and MAE 488.

MAE 466 - MECH & DSGN MACH ELEMENT

Semester Hours: 3

Detailed design and selection of machine elements such as gears, shafts, and bearings. Analysis of stresses and deformations under combined static and dynamic loads, stress concentrations, and fatigue. Prerequisites: MAE 364 and (MAE 370 or CE 370).

MAE 468 - ELEMENTS OF SPACECRAFT DESIGN

Semester Hours: 3

Fundamentals of spacecraft engineering and design. Topics include: orbital mechanics, space environment, attitude determination and control, communications, space structures, thermal control, propulsion and power, and systems and mission design. Prerequisites: MAE 371 and (MAE 272 or CE 272).

MAE 471 - ADV AEROSPACE STR & MTRL

Semester Hours: 3

Composite materials and applications in aerospace structures including: material types and properties and fabrication techniques, micromechanics, constitutive behavior, and classical laminated plate theory. Introduction to failure concepts, sandwich panels and finite element modeling of 1- and 2-D aerospace structures. Prerequisites: MAE 311 and MAE 371.

MAE 474 - APP MECHANICS OF SOLIDS

Semester Hours: 3

Stresses and strains at a point, theories of failures, stress concentration factors, thick-walled cylinders, torsion of noncircular members, curved beams, unsymmetrical bending, and shear center. Prerequisites: MAE 370 or CE 370.

MAE 477 - EXP TECH SOLID MECHANICS

Semester Hours: 3

Experimental methods to determine stress, strain, displacement, velocity, and acceleration in various media. Theory and laboratory applications of electrical resistance strain gauges, brittle coatings, and photo elasticity. Application of transducers and experimental analysis of engineering systems. Prerequisites: MAE 370 or CE 370.

MAE 480 - AIRCRAFT STABILITY & CONTROL

Semester Hours: 3

The stability and control of aerodynamic vehicles. The design of aircraft to obtain good flying characteristics. The complete governing equations and analog solutions of linearized equations. Prerequisites: MAE 430 and MAE 488.

MAE 488 - ANALY ENGINEERING SYSTEM

Semester Hours: 3

Development of mathematical engineering models of physical systems including: mechanical, electrical, and fluid systems and combined systems. Determination of the dynamic response of physical systems. Prerequisites: EE 213, MAE 284 and (MAE 272 or CE 272).

MAE 489 - COMPUTER AIDED ENGR

Semester Hours: 3

Analysis of design of structural, thermal, and dynamical systems using finite element and finite difference computer programs. Practical guidelines for discrete modeling; analysis of modeling errors. Comparison of exact and approximate solutions to boundary value problems. Prerequisites: MAE 370 or CE 370 and MAE 284 concurrently.

MAE 490 - SENIOR DESIGN I

Semester Hours: 3

Application of basic design principles including: design methodology, decision making, creativity, product liability, human factors, patents, ethics, and technical writing. Students will be assigned to a multi-disciplinary teams to develop design project requirements and initial concepts. Prerequisites: ISE 321, MAE 311, MAE 341, MAE 375 and (MAE 399 or EGR 399) and [(MAE 364, MAE 378, MAE 310) or (MAE 330, MAE 331, MAE 343, MAE 371)].

MAE 491 - SENIOR DESIGN II

Semester Hours: 3

Continuation of MAE 490. Students work on multi-disciplinary teams to design, fabricate, test and demonstrate the performance of various mechanisms, products and vehicles according to customer requirements. Oral presentations and written detailed documentation of the project must also be completed. Prerequisite: MAE 490.

MAE 492 - MISSION DESIGN & DEVELOPMENT

Semester Hours: 3

Senior Capstone Course Option. Students work design teams to develop missions of interest to NASA, DoD and industry. Includes defining the mission architecture and associated vehicles and components required to meet the customer requirements. Prerequisites: MAE 490.

MAE 493 - ROCKET DESIGN

Semester Hours: 3

Senior Capstone Course Option. Design, build, test and fly a high-powered rocket with a payload to a specified altitude. Students work on multi-disciplinary teams to design payloads, avionics, recovery systems, structures and other sub-systems and then integrate them into the final vehicle. Prerequisites: MAE 490.

MAE 494 - AIRCRAFT DESIGN

Semester Hours: 3

Senior Capstone Course Option. Design, build, and test an unmanned aircraft to meet specified requirements. Students work on multi-disciplinary teams. Systems engineering aspects including simulation, fabrication, integration, scheduling and cost estimation are also emphasized. Prerequisite: MAE 490.

MAE 495 - SEL TOPICS: MECH & AEROSPACE EG

Semester Hours: 1-4

MAE 496 - IND STUDY: MECH & AEROSPACE EG

Semester Hours: 1-4

Special independent project in a topic of Mechanical or Aerospace Engineering. Must work with a MAE faculty member with project approved by MAE department chair.

MAE 499 - UNDERGRADUATE THESIS

Semester Hours: 3

Required for students completing an Honors Program Bachelors Thesis. Senior standing and permission of thesis advisor required.

Military Science (MIL)

MIL 101 - MILITARY SCIENCE I

Semester Hours: 2

MIL 101L - LABORATORY

Semester Hours: 0

MIL 102 - MILITARY SCIENCE I

Semester Hours: 2

MIL 102L - LABORATORY

Semester Hours: 0

MIL 201 - MILITARY SCIENCE II

Semester Hours: 2

MIL 201L - LABORATORY

Semester Hours: 0

MIL 202 - MILITARY SCIENCE II

Semester Hours: 2

MIL 202L - LABORATORY

Semester Hours: 0

MIL 206 - LEADER'S TRAINING COURSE

Semester Hours: 6

MIL 301 - MILITARY SCIENCE III

Semester Hours: 3

MIL 301L - LABORATORY

Semester Hours: 0

MIL 302 - MILITARY SCIENCE III

Semester Hours: 3

MIL 302L - LABORATORY

Semester Hours: 0

MIL 401 - MILITARY SCIENCE IV

Semester Hours: 3

MIL 401L - LABORATORY

Semester Hours: 0

MIL 402 - MILITARY SCIENCE IV

Semester Hours: 3

MIL 402L - LABORATORY

Semester Hours: 0

MIL 498 - MILITARY SCIENCE-VA/A&M

Semester Hours: 2

MIL 499 - MILITARY SCI-SPEC TOPICS/A&M

Semester Hours: 2

Music (MU)

MU 100 - INTRO TO MUSIC LITERATURE

Semester Hours: 3

This course is designed as a cultural and historical overview with the purpose of developing a greater appreciation and understanding of art music. Course content will include exploration of musicians, ideas, and issues in various types of western and non-western music, through reading, listening, and discussion. No prerequisite is required. Offered every semester.

MU 102 - INTRODUCTION TO WORLD MUSIC

Semester Hours: 3

Exploration of ideas and issues in various types of non-Western music through reading, listening, and discussion. Includes optional travel abroad. Offered summer semesters only.

MU 106 - INTRO TO MUSIC TECHNOLOGY

Semester Hour: 1

Introduction to Music Technology provides students with an overview of the technical and scientific aspects of music such as: acoustics, music psychology/sociology, and modern electronics. There will be particular emphasis on the use of electronic devices, MIDI and computer software to facilitate recording, playback, composition, storage, performance and analysis. Offered Fall and Spring semesters only.

MU 108 - INTRODUCTION TO MUSIC THEORY

Semester Hours: 3

Music fundamentals presented in a practical way for students who have no musical training as well as for majors/minors with limited theory knowledge. Mechanical aspects of clefs, notation, scales, intervals, chords, and rhythm with some aural skills, and practice in writing and harmonizing melodies. For students who expect to major or minor in music, this course may not be taken for degree credit. Offered Summer and Fall semesters only.

MU 110 - INTRO ARTS MANAGEMENT

Semester Hours: 3

Designed to explore arts management and administration, focusing primarily on non-profit considerations, but also addressing commercial activities in the arts.

MU 120 - BEGINNING CLASS VOICE

Semester Hour: 1

This course is designed to aid beginning singers in learning the fundamentals of solo singing.

MU 130 - PIANO CLASS

Semester Hour: 1

Techniques of performance, note reading, and basic musicianship.

MU 131 - PIANO CLASS II

Semester Hour: 1

MU 140 - BEGINNING GUITAR CLASS

Semester Hour: 1

The course objective is to provide basic guitar instruction for students who have had little or no experience playing the guitar. The course will cover note reading, posture, chords, strumming patterns, simple arpeggios, scales, and simple to intermediate solo playing.

MU 199 - MUSIC FORUM

Semester Hours: 0

Concert attendance is an indispensable aspect of a student's music education. Attendance requirements for this course include Thursday morning Music Forums as well as the number of formal concerts specified in the syllabus.

MU 201 - MUSIC THEORY I

Semester Hours: 3

Fundamentals of basic musicianship through practical as well as theoretical studies. Development of skills in written harmony and analysis. Appropriate Musicianship skills (e.g. MU 203) to be taken concurrently throughout theory program. Prerequisites: The approval of instructor or department chair. Offered Spring semesters only.

MU 202 - MUSIC THEORY II

Semester Hours: 3

Continuation of MU 201. Offered Fall semesters only. Prerequisites: MU 201 and MU 203.

MU 203 - MUSICIANSHIP SKILLS I

Semester Hour: 1

To be taken concurrently with MU 201 and designed to complement written studies. Exercises in sight singing using solfege, numbers or other systems. Basic conducting patterns, rhythmic execution and melodic, harmonic, and rhythmic dictation. Prerequisites: Approval of instructor or department chair. Offered Spring semesters only.

MU 204 - MUSICIANSHIP SKILLS II

Semester Hour: 1

Continuation of MU 203. Offered Fall semesters only. Prerequisites: MU 201 and MU 203.

MU 205 - JAZZ THEORY

Semester Hours: 2

This course serves as an introduction to the theoretical analysis of jazz harmony, with an emphasis on styles from the bebop era and later. Offered every other Fall semester. Prerequisites: MU 201.

MU 207 - MUSIC TECHNOLOGY I

Semester Hours: 3

Students will learn the basics of using a computer interface to create and edit music, using a software MIDI sequencer and Digital Audio Workstation. Students will learn the basics of MIDI sequencing and music production. Prerequisites: MU 106.

MU 208 - MUSIC TECHNOLOGY II

Semester Hours: 3

Students will learn advanced techniques in digital audio production, including (but not limited to): Advanced MIDI sequencing, audio sampling, and production/mastering. Prerequisites: MU 106, MU 207.

MU 301 - THEORY OF MUSIC III

Semester Hours: 3

A study on chromatic harmony and a continuation of the studies of MU 201 and MU 202. Prerequisites: MU 202 and MU 204.

MU 302 - MUSICAL MATLS OF MODERN ERA

Semester Hours: 3

Systems of tonal organization, compositional procedures, terminology, and analytical methods that related to music since 1900. Offered every other Fall semester only. Prerequisites: MU 301 and MU 303 and MU 304.

MU 303 - MUSICIANSHIP SKILLS III

Semester Hour: 1

Continuation of MU 204. Offered Spring semesters only. Prerequisites: MU 202 and MU 204.

MU 305 - MUSIC TECHNOLOGY III

Semester Hours: 3

This course will focus primarily on analogue and digital audio systems setup and implementation. Mixing consoles, amplifiers, loudspeakers, microphones, keyboards, playback equipment, processing, cabling, configuration, computer hardware and software will be discussed and demonstrated in depth. Prerequisite: MU 106.

MU 306 - MUSIC TECHNOLOGY IV

Semester Hours: 3

An exploration of music technology hardware and software, including an overview of acoustics, MIDI and digital audio data structures, and an introduction to multimedia authoring. Offered every other Spring semester only. Prerequisites: MU 106.

MU 311 - HISTORY OF MUSIC I

Semester Hours: 3

Focus on music as an art in western civilization to 1750. Representative musical works and style. Understanding of musical concepts in view of historical background and cultural context. Offered Fall semesters only. Prerequisites: MU 100 and MU 301.

MU 312 - HISTORY OF MUSIC II

Semester Hours: 3

Focus on music as an art in western civilization from 1750 to the present. Representative musical works and style. Understanding of musical concepts in view of historical background and cultural context. Offered Spring semesters only. Prerequisites: MU 100 and MU 301.

MU 313 - SURVEY OF CHURCH MUSIC

Semester Hours: 3

Explores Christian music from historical and musical perspectives. Prerequisites: MU 100 and MU 301.

MU 314 - THE BEATLES

Semester Hours: 3

The purpose of this course is to familiarize the student with the music, lyrics, recordings, personal and public lives, production techniques, career strategy, social ramifications, and technological impact of the musical group known as The Beatles. The course will provide the student with an appreciation for the music itself, and a broader comprehension of the social, economic, political, and cultural upheavals that gave rise to the musical trends of the Sixties.

MU 316 - HIST & APPRECIATION OF JAZZ

Semester Hours: 3

This course is designed to explore the history and development of jazz as an art form, from its origins as popular music to its evolution into an Art Music. Improvisation will be explained and explored in the context of the different styles of jazz. The course will focus on understanding through listening to jazz. Every other spring semester only. Prerequisite: MU 100.

MU 317 - JAZZ ARRANGING

Semester Hours: 2

This course provides the student with instruction in arranging for small and large jazz ensembles, both instrumental and vocal. Offered every other Spring semester only. Prerequisite: MU 205.

MU 320 - PIANO PEDAGOGY

Semester Hours: 2

Materials, techniques, and practices in teaching beginners and students through lower advanced grades of piano. Practical experience. Offered upon demand. Prerequisite: approval of instructor.

MU 321 - PIANO PEDAGOGY II

Semester Hours: 2

An examination of relevant methods in piano pedagogy and technique for all levels of instruction. The course will also assess the historical achievements made by previous pedagogues in the field of piano pedagogy. Prerequisite: MU 320.

MU 322 - DICTION FOR SINGERS

Semester Hours: 2

Intended as an overview for vocal and choral students who wish to learn the diction requirements for singing in Latin, Italian, German, French, and English. Offered every Fall semester only. Prerequisite: MUA 111.

MU 325 - CONDUCTING

Semester Hours: 2

Basic techniques of choral and instrumental conducting. Offered Fall semesters only. Prerequisite: MU 301.

MU 399 - SPECIAL TOPICS IN MUSIC

Semester Hours: 3

Special topics in music. Focus and emphasis of topics announced in advance. Offered upon demand.

MU 401 - FORM AND ANALYSIS

Semester Hours: 2

Musical forms and analysis. Offered every other Fall semester only. Prerequisites: MU 303 and 312.

MU 402 - CHURCH MUSIC METHODS, MATERIALS & ADMINISTRATION

Semester Hours: 3

Church Music Methods, Materials, and Administration. Prerequisite: MU 301.

MU 404 - MUSIC TECHNOLOGY INDIVIDUAL PROJECT

Semester Hour: 1

Three-semester sequence for students enrolled in music technology majors and minors. Students will create individual projects in MIDI, sound creation and editing, and multimedia. Prerequisite: MU 306.

MU 406 - INTERNSHIP IN MUSIC TECHNOLOGY

Semester Hours: 3

An internship of eight hours per week working in the music technology industry. Offered upon demand. Prerequisite: MU 306.

MU 407 - INTERNSHIP MUSIC BUSINESS

Semester Hours: 3

Internship in Music Business. Prerequisites: MU 100 and MU 110 and MU 301 and MKT 301 and MGT 301 and FIN 410.

MU 408 - INTERNSHIP CHURCH MUSIC

Semester Hours: 3

An internship of nine hours per week working in church music. Prerequisites: MU 100 and MU 301 and MU 313 and MU 402 and MUE 328.

MU 409 - INTERNSHIP GROUP PIANO PEDAGOGY

Semester Hour: 1

An internship of three hours per week working with an approved group piano program. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 410 - INTERNSHIP INDIVIDUAL PIANO PEDAGOGY

Semester Hours: 3

An internship of nine hours per week working with a local piano teacher. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 411 - INTERNSHIP INDIVIDUAL PIANO PEDAGOGY

Semester Hours: 3

Courses of study and activity developed by the student and submitted to music faculty for approval. Projects to reinforce learning and performance experiences. May be repeated, but no more than two hours count toward degree requirements. Offered upon demand. Prerequisites: MU 100 and MU 321 and MU 420 and MUE 328.

MU 416 - ORCHESTRATION

Semester Hours: 2

Instruments of the band and orchestra, their ranges, transpositions, and capabilities. Practical experience in arranging for instruments. Offered every other Fall semester only. Prerequisite: MU 302.

MU 420 - PIANO LITERATURE

Semester Hours: 2

Music for string keyboard instruments from the pre-pianoforte period to the present. Representative works from all periods. Offered upon demand. Prerequisites: MU 302 and MU 304 and MU 312.

MU 425 - ADVANCED CONDUCTING

Semester Hours: 2

Review of basic conducting patterns. Emphasis on communication as the role of the conductor. Detailed score preparation. Offered every other Spring semester only. Prerequisite: MU 325.

MU 440 - STUDIO INSTR-VOICE

Semester Hours: 0.5

Music Applied (MUA)

MUA 111 - STUDIO INSTR-VOICE

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 115 - STUDIO INSTR-VOICE

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 121 - STUDIO INSTR-ORGAN

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 125 - STUDIO INSTR IN ORGAN

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 131 - STUDIO INSTR-PIANO

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 135 - STUDIO INSTR-PIANO

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 141 - STUDIO INSTR-GUITAR

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 145 - STUDIO INSTR-GUITAR

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 151 - STUDIO INSTR-STRINGS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 155 - STUDIO INSTR-STRINGS

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 158 - STUDIO INSTR-STRINGS

Semester Hour: 1

For secondary instrument, instrumental music education students.

MUA 159 - STUDIO INSTR-STRINGS

Semester Hour: 1

For secondary instrument, instrumental music education students.

MUA 161 - STUDIO INSTR-WOODWINDS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 165 - STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 171 - STUDIO INSTR-BRASS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 175 - STUDIO INSTR-BRASS

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 181 - STUDIO INSTR-PERCUSSION

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUA 185 - STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 191 - STUDIO INSTR-COMPOSITION

Semester Hour: 1

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 195 - STUDIO INSTR-COMPOSITION

Semester Hour: 1.5

For aspiring music majors who have not yet been accepted as music majors. Prerequisite: permission of instructor.

MUA 211 - STUDIO INSTR-VOICE

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 111.

MUA 215 - STUDIO INSTR-VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 217 - STUDIO INSTRUCTION IN VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 218 - STUDIO INSTRUCTION IN VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 219 - STUDIO INSTRUCTION IN VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 221 - STUDIO INSTR-ORGAN

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 121.

MUA 223 - STUDIO INSTR-ORGAN

Semester Hour: 1.5

For music majors' principal instrument.

MUA 226 - STUDIO INSTRUCTION-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 227 - STUDIO INSTRUCTION-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 228 - STUDIO INSTRUCTION-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 229 - STUDIO INSTRUCTION-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 231 - STUDIO INSTR-PIANO

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 131.

MUA 236 - STUDIO INSTRUCTION-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 237 - STUDIO INSTRUCTION-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 238 - STUDIO INSTRUCTION-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 239 - STUDIO INSTRUCTION-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 241 - STUDIO INSTR-GUITAR

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 141.

MUA 246 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 247 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 248 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 249 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 251 - STUDIO INSTR-STRINGS

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 151.

MUA 256 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 257 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 258 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 259 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 261 - STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 161.

MUA 268 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 269 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 271 - STUDIO INSTR-BRASS

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 171.

MUA 276 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 277 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 278 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 279 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 281 - STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For music majors' principal instrument. Prerequisite: MUA 181.

MUA 286 - STUDIO INSTR-PERCUSSION

Semester Hours: 2

For music majors' principal instrument.

MUA 287 - STUDIO INSTR-PERCUSSION

Semester Hours: 2

For music majors' principal instrument.

MUA 288 - STUDIO INSTR-PERCUSSION

Semester Hours: 2

For music majors' principal instrument.

MUA 289 - STUDIO INSTR-PERCUSSION

Semester Hours: 2

For music majors' principal instrument.

MUA 291 - STUDIO INSTR-COMPOSITION

Semester Hour: 1.5

MUA 311 - STUDIO INSTR-VOICE

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 211.

MUA 321 - STUDIO INSTR-ORGAN

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 221.

MUA 331 - STUDIO INSTR-PIANO

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 231.

MUA 341 - STUDIO INSTR-GUITAR

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 241.

MUA 351 - STUDIO INSTR-STRINGS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 251.

MUA 361 - STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 261.

MUA 371 - STUDIO INSTR-BRASS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 271.

MUA 381 - STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUA 281.

MUA 411 - STUDIO INSTRUCTION-VOICE

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 211.

MUA 416 - STUDIO INSTR-VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 417 - STUDIO INSTR-VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 418 - STUDIO INSTR-VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 419 - STUDIO INSTR-VOICE

Semester Hours: 2

For music majors' principal instrument.

MUA 421 - STUDIO INSTR-ORGAN

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 221.

MUA 422 - STUDIO INSTR-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 426 - STUDIO INSTR-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 427 - STUDIO INSTR-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 428 - STUDIO INSTR-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 429 - STUDIO INSTR-ORGAN

Semester Hours: 2

For music majors' principal instrument.

MUA 431 - STUDIO INSTR-PIANO

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 231.

MUA 432 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 433 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 434 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 435 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 436 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 437 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 438 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 439 - STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUA 441 - STUDIO INSTR-GUITAR

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 241.

MUA 445 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 446 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 447 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 448 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 449 - STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUA 451 - STUDIO INSTR-STRINGS

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 251.

MUA 452 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 453 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 454 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 455 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 456 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 457 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 458 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 459 - STUDIO INSTR-STRINGS

Semester Hours: 2

For music majors' principal instrument.

MUA 461 - STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 271.

MUA 462 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 467 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 468 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 469 - STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUA 471 - STUDIO INSTR-BRASS

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 271.

MUA 473 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 474 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 475 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 476 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 477 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 478 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 479 - STUDIO INSTR-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUA 481 - STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For music majors' principle instrument. Prerequisite: MUA 281.

MUA 482 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 483 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 484 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 485 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 486 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 487 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 488 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 489 - STUDIO INSTR-PERCUSSION
Semester Hours: 2

For music majors' principal instrument.

MUA 491 - STUDIO INSTR-COMPOSITION
Semester Hour: 1.5

For music majors' principal instrument.

MUA 498 - SENIOR RECITAL
Semester Hour: 1.5

Represents the final semester of studio instruction on the primary instrument for all music majors except those pursuing the performance emphasis, who typically perform this recital as juniors. The recital must include a minimum of 30 minutes of music. The student must pass a recital jury at least two weeks before the scheduled recital performance.

MUA 499 - PERFORMANCE EMPHASIS RECITAL
Semester Hour: 1.5

For music majors pursuing the performance emphasis only. The Performance Emphasis Recital represents the final semester of studio instruction on the primary instrument for music majors pursuing the performance emphasis. The recital must include a minimum of 60 minutes of music. The student must pass a recital jury at least two weeks before the scheduled recital performance.

Music Education (MUE)

MUE 215 - MUSIC FOR YOUNG CHILD
Semester Hours: 3

For elementary and special education teachers, recreational therapists, church school, or prospective teachers not trained in music. Preparation to teach children ages 3-12 through experience in singing, reading, planning, and presentation. Elementary education majors using music as their second area of study must select MUE 326 rather than MUE 215 for their GER.

MUE 321 - CHORAL/INSTRUMENTAL DIR OBSERV

Semester Hour: 1

In this course, music education students will observe band or choral programs outside their primary area: choral students in an instrumental program and instrumental students in a choral program. The student will observe and assist the band or choir director, gaining an experience in working with ensembles outside the student's primary area. Prerequisite: MU 325.

MUE 328 - TEACHING GENERAL MUSIC

Semester Hours: 3

Materials and methods. Emphasis on developing teaching competencies in general music, with an emphasis on the elementary school level.

Prerequisite: MU 301.

MUE 427 - ORG & DIR VOCALS ENS SEC

Semester Hours: 3

MUE 428 - VOCAL/CHORAL METH SEC SCH

Semester Hours: 3

Includes basic principles of breathing, posture, and resonance. Diction guidelines for Latin, Italian, German, and French; repertoire for both vocal and choral students; organizational methods for leading choral programs; rehearsal techniques; classroom management skills. Prerequisites: MUE 326 and MUE 327 and MU 425.

MUE 429 - ORG & DIR INSTRU GRP SEC SCH

Semester Hours: 3

Reperotoire, procedures for administering and teaching school bands, orchestras and instrumental ensembles. Prerequisite: MU 425.

Music Jazz (MUJ)

MUJ 131 - JAZZ STUDIO INSTR-PIANO

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 141 - JAZZ STUDIO INSTR-GUITAR

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 151 - JAZZ STUDIO INSTRUCTION-BASS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 152 - JAZZ STUDIO INSTR-BASS

Semester Hour: 1.5

MUJ 161 - JAZZ STUDIO INSTR-WOODWINDS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 171 - JAZZ STUDIO INSTR-BRASS

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 181 - JAZZ STUDIO INST-PERCUSSION

Semester Hour: 1

For non-music majors, music minors, and music majors' secondary instrument.

MUJ 205 - JAZZ THEORY

Semester Hours: 2

This course serves as an introduction to the theoretical analysis of jazz harmony, with an emphasis on styles from the bebop era and later. Offered every other Fall semester. Prerequisites: MU 201.

MUJ 231 - JAZZ STUDIO INSTR-PIANO

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 237 - STUDIO INSTR: JAZZ PIANO

Semester Hours: 2

MUJ 241 - JAZZ STUDIO INST-GUITAR

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 251 - JAZZ STUDIO INSTRUCTION-BASS

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 261 - JAZZ STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 265 - JAZZ STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUJ 271 - JAZZ STUDIO INSTR-BRASS

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 281 - JAZZ STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For music majors' principal instrument.

MUJ 308 - JAZZ IMPROVISATION I

Semester Hours: 2

MUJ 309 - JAZZ IMPROVISATION II

Semester Hours: 2

MUJ 331 - STUDIO INSTR-PIANO

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 231.

MUJ 341 - STUDIO INSTR-GUITAR

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 241.

MUJ 351 - STUDIO INSTR-BASS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 251.

MUJ 361 - STUDIO INSTR-WOODWINDS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 261.

MUJ 371 - STUDIO INSTR-BRASS

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 271.

MUJ 381 - STUDIO INSTR-PERCUSSION

Semester Hour: 1.5

For music majors principal instrument. Prerequisite: MUJ 281.

MUJ 431 - JAZZ STUDIO INSTR-PIANO

Semester Hours: 2

For music majors' principal instrument.

MUJ 441 - JAZZ STUDIO INSTR-GUITAR

Semester Hours: 2

For music majors' principal instrument.

MUJ 461 - JAZZ STUDIO INSTR-WOODWINDS

Semester Hours: 2

For music majors' principal instrument.

MUJ 471 - JAZZ STUDIO INST-BRASS

Semester Hours: 2

For music majors' principal instrument.

MUJ 481 - JAZZ STUDIO INSTR-PERCUSSION

Semester Hours: 2

For music majors' principal instrument.

MUJ 498 - SENIOR JAZZ RECITAL

Semester Hour: 1.5

For music majors pursuing the jazz emphasis only. The Senior Jazz Recital represents the final semester of studio instruction on the primary jazz instrument for music majors pursuing the jazz emphasis. The recital must include a minimum of 30 minutes of music. The student must pass a recital jury at least two weeks before the scheduled performance.

Music Ensembles (MUX)

MUX 386 - JAZZ CHAMBER ENSEMBLES

Semester Hours: 0.5

Discussion, evaluation, and performance of literature available for selected small jazz combos.

MUX 389 - UAH JAZZ ENSEMBLE

Semester Hour: 1

Open to all students by audition with the director. Provides the participant with opportunities to perform a wide variety of jazz styles in varied settings. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 390 - UAH CONCERT CHOIR

Semester Hour: 1

Mixed voices singing the serious choral repertoire. Open to all students by audition. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 391 - UAH CHAMBER CHOIR

Semester Hour: 1

Open to all students by audition. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 392 - TENOR-BASS CHORALE

Semester Hours: 0.5

A non-auditioned choir for tenor and bass voices. Classical and popular music are included in the repertoire. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 393 - WOMEN'S CHOIR

Semester Hours: 0.5

A non-auditioned choir for soprano and alto ranges. Classical, folk and popular music are the components of this repertoire. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 394 - UNIVERSITY CHORALE

Semester Hours: 0.5

Mixed voices singing the serious choral repertoire. Open to all students by audition. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 395 - OPERA WORKSHOP

Semester Hour: 1

The study and performance of operas and excerpts from operatic literature. Audition required. Attendance required at all rehearsals and performances.

MUX 396 - CHAMBER ENSEMBLES

Semester Hours: 0.5

Discussion, evaluation and performance of literature available for selected small ensembles. Piano trios, quartets, quintets, string quartets, woodwind, brass, percussion and vocal ensembles. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 397 - UNIVERSITY BAND

Semester Hour: 1

The university band is a key component of the university environment at UAH as it encourages the continued musical participation of students outside the department of music. The university band has an open enrollment policy which welcomes all interested UAH students with previous band experience, regardless of major. The university band meets weekly to rehearse and perform a variety of band music ranging from contemporary band works for sports and university audiences, both on campus and off. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 398 - ORCHESTRA

Semester Hour: 1

Preparation of the finest literature for symphony orchestra. Open to all students by audition with the conductor. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students, some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

MUX 399 - UAH WIND ENSEMBLE

Semester Hour: 1

Preparation of the finest literature for wind ensemble and concert band. Open to all students by audition with the conductor. Required attendance at rehearsals and performances. The UAH music ensembles are open to all students; some ensembles require an audition. Ensemble participation is essential for all music majors and minors, and music majors are expected to participate in an appropriate ensemble each semester the student is enrolled for degree requirements.

Nursing (NUR)

NUR 000 - NURSING-CREDIT BY VALIDATION

Semester Hours: 3-42

NUR 001 - NURSING TESTING BLOCK

Semester Hours: 0

Nursing Testing Block is a common block of time for students in different cohorts to take their examinations.

NUR 220 - HEALTH PROMOTION NUR MAJORS

Semester Hours: 3

The focus of this class is on health and high-level wellness across the lifespan, with an emphasis on promoting healthy living and preventing illness. Diverse perceptions and beliefs related to health and wellness are explored, and ways to put healthy ideas into practice are applied. Medical terminology to improve healthcare communication is incorporated into the course.

NUR 301 - Professional Concepts in Nursing

Semester Hours: 3

This course focuses on professional development using concepts and theories basic to the art and science of nursing. Students are introduced to the concepts of communication, teaching/learning, clinical decision making, ethical/legal issues, nursing history, and philosophy for knowledge development of the discipline. Clinical informatics and healthcare technologies are also introduced as tools to deliver safe, ethical, evidence-based nursing care.

Prerequisites with concurrency: NUR 303, 304, and 311.

NUR 303 - HEALTH ASSESSMENT

Semester Hours: 5

Focus on holistic assessment of culturally diverse clients across the life span. Communication & psychomotor skills are developed in clinical laboratory settings with an emphasis on normal findings and health promotion.

NUR 303L - CLINICAL

Semester Hours: 0

NUR 304 - APP PATHOPHYSIOLOGY LIFESPAN

Semester Hours: 3

The course is designed to help the student build on previous knowledge of anatomy and physiology and microbiology. Adaptations and alterations in health status throughout the lifespan are emphasized. Students explore the implications of lifestyle to pathology within a nursing framework, and learn to relate normal body functioning to the pathophysiological changes that occur in, and as a result of disease.

NUR 305 - NUR PROC MENTAL HLTH/ILLNESS

Semester Hours: 4

Nursing process in the promotion of psychosocial integrity. Emphasis is on the therapeutic use of self through providing interventions for individuals and groups in a variety of settings. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 305L - CLINICAL

Semester Hours: 0

NUR 307 - INQRY TO EVIDNC BASED NURS PRC

Semester Hours: 3

This course identifies various modes of inquiry and critical analysis used in the development of nursing science. Explore evidence based models to examine the evidence from a variety of research designs used to formulate nursing decisions. Emphasis is on identifying and synthesizing the best evidence to solve complex health problems in order to deliver safe, competent nursing care to diverse populations. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 308 - NURS CARE ADULTS HLTH ALTERNES

Semester Hours: 8

This course focuses on the application of the nursing process in the collaborative nursing management of adult clients experiencing simple to complex physiological health alterations. Clinical experiences provide opportunities for beginning to intermediate clinical reasoning in the acute care environment. The embodiment of professionalism and professional values are emphasized. Prerequisites: NUR 310 and NUR 312 and NUR 321.

NUR 308L - CLINICAL

Semester Hours: 0

NUR 310 - PROFESSIONAL PRACTICE NURS I

Semester Hours: 6

This course will begin the process of learning foundational nursing skills to be used in nursing practice. Psychomotor nursing skills needed to assist individuals meet basic human needs will be taught with expectation the student will demonstrate competency in performing skills. Laboratory and clinical experiences are included. Prerequisites: NUR 301, NUR 303, NUR 304, NUR 311.

NUR 310L - CLINICAL

Semester Hours: 0

NUR 311 - CLINICAL CALCULATIONS

Semester Hour: 1

In this course, students will learn to accurately calculate medication dosages. Testing in this course will establish minimal medication calculation proficiency required to progress to the second semester of the nursing program. Prerequisites with concurrency: NUR 301, NUR 304, NUR 303.

NUR 312 - GERO NURSING CARE

Semester Hours: 3

This course is designed to focus on current health care issues affecting the older adult. Physical, psychological, sociocultural, and spiritual aspects of aging are examined within the context of the family and society. The course applies the nursing process with emphasis on optimal health for the older adult. Prerequisites: NUR 301, 303, 304, and 311. Prerequisite with concurrency: NUR 310 and 321.

NUR 312L - CLINICAL

Semester Hours: 0

This is the clinical component of the Gerontological Nursing Care course. The course will focus on current health care issues affecting the older adult. Physical, psychological, sociocultural, and spiritual aspects of aging are examined within the context of the family and society. The course applies the nursing process with emphasis on optimal health for the older adult.

NUR 321 - PHARMACOLOGY IN NURS

Semester Hours: 3

This course comprises pharmacological concepts incorporating an overview of historical and current issues in drug therapy. Pharmacotherapeutics, pharmacodynamics, pharmacokinetics, contraindications and precautions for prototype drugs for multiple body systems are presented. Major emphasis is placed on nursing management practices using nursing process as well as the nurses' role in optimizing reliable medication administration.

Prerequisites: NUR 301, NUR 303, NUR 304, NUR 311.

NUR 339 - INFO MGMT IN HEALTHCARE

Semester Hours: 3

This course is designed to introduce information management, including decision support systems. The use of information management nomenclature is integrated into the learning activities. The role of the nurse as an advocate in improving patient outcomes using data management is explored. Safety, ethical, and legal concerns are addressed. Prerequisite: NUR 410.

NUR 390 - INDEPENDENT STUDY

Semester Hours: 1-4

Individualized independent study of specific nursing problem under sponsorship of a nursing faculty member with special preparation in the field. Elective.

NUR 391 - GLOBAL HEALTH

Semester Hour: 1

NUR 400 - SPECIAL TOPICS

Semester Hours: 3

NUR 401 - NURS CARE CRITICALLY ILL ADULT

Semester Hours: 5

This course explores the evidence-based collaborative nursing management of clients experiencing complex physiological health alterations. Clinical experiences will provide opportunities for advanced clinical reasoning in the acute and critical care environments. Prerequisites: NUR 305 and NUR 307 and NUR 308.

NUR 401L - CLINICAL

Semester Hours: 0

NUR 403 - MATERNAL INFANT NURSING

Semester Hours: 4

This course explores internal and external factors, which impact the health of the family during the antepartal, intrapartal, postpartal and neonatal periods of childbearing. Emphasis is placed on nursing care of these clients, normal physiology, pathophysiology, psychological and sociocultural needs, and risk identification and reduction. Prerequisites: NUR 305 and NUR 307 and NUR 308 and NUR 321.

NUR 403L - CLINICAL

Semester Hours: 0

NUR 404 - FAMILY-CENTER NUR CARE CHILDRE

Semester Hours: 4

This course is designed to introduce the concept of family centered pediatric care that is developmentally appropriate for a culturally diverse population. Clinical experiences in selected agencies. Prerequisites: NUR 301 and NUR 307 and NUR 308 and NUR 321.

NUR 404L - CLINICAL

Semester Hours: 0

NUR 405 - COMMUNITY HEALTH NURS

Semester Hours: 4

The course explores the community as client and teaches concepts and knowledge necessary to promote the health of the public and communities. Emphasis is on community health theory, individual, family, and community assessment, aspects of epidemiology, program planning and evaluation, trends and issues, legislation, ethics, research, health care economics and disaster management. Prerequisites: NUR 401 and NUR 403 and NUR 404.

NUR 405L - CLINICAL EXPERIENCE

Semester Hours: 0

NUR 407 - PROF PRACTICE IN NURSING II

Semester Hours: 8

The focus of this course is the leadership and management functions of professional nursing. Essential skills are communication, interprofessional collaboration, delegation, coordination, and the application of evidence-based practice models. Clinical experiences will focus on performance of the professional nurse role in a concentrated practicum. Prerequisites: NUR 401 and NUR 403 and NUR 404.

NUR 407L - CLINICAL EXPERIENCE

Semester Hours: 0

NUR 408 - PROF PRAC IN NURS III SEMINAR

Semester Hours: 2

The purpose of this class is to facilitate the synthesis of knowledge, the application of critical thinking to decisions about patient care, and to ensure safe and competent nursing practice. Test-taking skills and time management concepts will be applied in preparation of the NCLEX-RN licensure exam. Prerequisites: NUR 407.

NUR 410 - TRANSITION INTO PROFESS ROLES

Semester Hours: 3

The course examines the multi-dimensional role of the professional nurse in health systems. Through the analysis of a paradigm case and development of a personal philosophy of nursing, the student evaluates professional practice and develops goals designed to guide learning and professional development. Philosophical, social, political, legal, and ethical issues inherent in the practice of professional nursing in health systems are discussed.

NUR 411 - THEORETICAL APPL IN PROF NURS

Semester Hours: 3

Designed for registered nurse students to synthesize knowledge gained from previous nursing experience when analyzing theories, issues and concepts that influence professional nursing practice. Theoretical concepts, which influence critical thinking, are applied to the nursing process. Analysis of normal processes and professional nursing responses to alterations in life processes across the lifespan are examined. Caring for diverse clients is emphasized. Ethical and legal issues which impact the care for client systems are examined when synthesizing theoretical and nursing practice issues.

NUR 413 - LEADERSHIP PROF NURS PRACT

Semester Hours: 5

4 course / 1 clinical. Designed to improve leadership in professional nursing practice, this course provides the basis for advancing health through leading and managing the care giver and care coordinator roles in a variety of culturally diverse healthcare systems. The exploration of the health care environmental takes place within the context of organizational climate and culture, leading change and innovation and promoting excellence in professionalism. Students apply leadership principles through case study and the development of a clinical change project within indirect practice experiences. Prerequisite with concurrency: NUR 410.

NUR 415 - HONORS DIRECTED RESEARCH

Semester Hours: 2

This course allows for implementation of the student's research proposal as developed in the Honors section of NUR 307. The focus is on data collection and preliminary data analysis. The seminar format will provide students access to expert researchers.

NUR 416 - HONORS RESEARCH SEMINAR

Semester Hour: 1

The focus of this seminar is completion of final research report, as begun in NUR 307 and NUR 415.

NUR 417 - NURS CARE VUL POP

Semester Hours: 4

This course examines health determinants and health disparities within the US as well as in the global community. The student will examine health disparities and the burden of disease within social, cultural, political, economic, and environmental contexts. Students will examine strategies aimed at risk reduction and improvement through outcomes. Prerequisite with concurrency: NUR 410.

NUR 421 - AC CARE FOR PROFESSIONAL NURSE

Semester Hours: 3

2 Course / 1 Clinical. The nursing process is applied to clients experiencing physiological health alterations requiring complex and collaborative nursing strategies and appropriate resource management. Direct practice experiences are focused on conducting comprehensive assessments and care planning with the interprofessional team. Prerequisite with concurrency: NUR 410.

NUR 422 - COMMUNITY HEALTH FOR PROF NURS

Semester Hours: 5

4 course/1 clinical. This course is designed to provide the application of theoretical concepts related to primary, secondary, and tertiary care of families and aggregates in professional nursing practice. Emphasis is on application of the nursing process in assessing social determinants of health and promoting community health for diverse communities. Application of direct practice experience activities are designed to meet individual learning needs of the student in delivering and managing care of selected aggregate populations. Prerequisite with concurrency: NUR 410.

NUR 423 - EVID BASED PRACTICE PROFESS NU

Semester Hours: 3

This course fosters the application of the best clinical evidence into practice in order to promote improvement in healthcare experiences and patient outcomes. Various modes of scientific inquiry used in the development of nursing science are incorporated into a survey of research techniques, methodologies, and ethical concerns. This will enable students to select and evaluate appropriate information relevant to evidence based practice. Students will develop skills in the use of electronic databases to facilitate acquisition of current information. Emphasis is placed on the critical analysis of evidence to be used in formulating nursing decisions and the design of client care guidelines. Prerequisite: NUR 410.

NUR 426 - SPACE LIFE SCIENCES

Semester Hours: 3

Theories and concepts of contemporary issues in health and nursing related to space life sciences.

NUR 427 - INTRODUCTION TO FORENSICS

Semester Hours: 3

This course provides an overview of the field of forensic nursing. Concepts of care for victims and family members of violence, abuse, traumatic accidents, and criminal activity are discussed. Current healthcare practices and medical/legal/ethical issues are reviewed. Elective, open to all university students.

NUR 439 - NURSING MEDICAL MISSIONS

Semester Hours: 2

This course will examine concepts and issues associated with humanitarian and medical missions. Commonly occurring healthcare needs relevant to specific vulnerable populations will be analyzed in preparation for delivery of healthcare. The culmination of this course is a trip abroad to deliver healthcare to a population in need within the structure of a medical mission. This course is an accepted elective in the Nursing program. Prerequisite: NUR 303.

Optical Engineering (OPE)

OPE 451 - OPTOELECTRONICS

Semester Hours: 3

Basic concepts for understanding electro-optic devices and systems. Blackbody radiation; light sources; quantum and thermal detector, noise in detectors; optical heterodyning; acoustooptic, magneto-optic, and electro-optic modulation. (Same as EE 451) Prerequisites: EE 307 and EE 315.

OPE 453 - LASER SYSTEMS

Semester Hours: 3

Spontaneous and stimulated emission, population inversion, optical resonators, three- and four-level systems, Q-switching and mode-locking, semiconductor lasers, integrated optic waveguides and couplers, scanning systems, high-power industrial application. Prerequisites: EE 307.

OPE 454 - OPTICAL FIBER COMMUNICATIONS

Semester Hours: 3

Introduction to optical fibers and their transmission characteristics, optical fiber measurements, sources and detectors, noise considerations for digital and analog communications, optical fiber systems. (Same as EE 454) Prerequisites: (EE 307 or PH 432) and (EE 382 or CPE 381).

OPE 456 - PHOTONICS LABORATORY

Semester Hours: 3

Photonic devices, wave nature of light, diffraction, spectral measurements, refractive index, single mode and multimode optical fibers, simple optical communication systems, fiber optic sensors, case study. Prerequisites: OPE 451.

OPE 459 - OPTICAL ENGINEERING DESIGN I

Semester Hours: 3

Identification, documentation, and presentation of proposed senior design project, followed by initial project design, analysis, and development, including the consideration of legal economic, and ethical issues. Prerequisites: ISE 321 and OPE 456.

OPE 460 - OPTICAL ENGINEERING DESIGN II

Semester Hours: 3

Continuation of design project begun in OPE 459 to include prototype testing of the design optical or opto-electronic system. Prerequisites: OPE 459.

Optics (OPT)

OPT 341 - GEOMETRICAL OPTICS

Semester Hours: 3

Introduces geometrical optics. The nature of light, basic radiometry, rays and waves, Fermat's principle, Snell's law, thin and thick lenses, paraxial rays, ray transfer matrix and ray tracing, optical imaging and imaging system design, aberrations, optical instrumentation, prisms, and dispersion. Prerequisite: PH 113. Prerequisite with concurrency: PH 305 and MA 244.

OPT 342 - PHYSICAL OPTICS

Semester Hours: 3

Electromagnetic waves, superposition of waves, interference of light, Young's double slit experiment, Michelson interferometer, Fabry-Perot interferometer, coherence, diffraction gratings, polarization and its matrix treatment, and polarization generation. Offered Spring. Prerequisite with concurrency: OPT 341.

OPT 411 - OPTICS LAB

Semester Hours: 3

Lab course supporting the introductory optics sequence OPT 341 and OPT 342. Basic laboratory techniques in optics, such as optical alignment, imaging, interferometry, refractometry, and polarimetry, as well as fundamental optics concepts, such as the cardinal points, aberrations, dispersion, interference, diffraction, and polarization. Offered Spring. Prerequisite with concurrency: OPT 341. Corequisite: OPT 342.

OPT 441 - OPTICAL SYSTEMS

Semester Hours: 3

Intermediate geometrical optics, first-order optics, linear transformations, paraxial optics, reflection and transmission at an interface, polarized light, Jones and Mueller calculi, matrix methods, ray tracing, apertures and stops, third order optics and aberrations. Offered Fall, even years. Prerequisite: OPT 342.

OPT 442 - INTERFERENCE & DIFFRACTION

Semester Hours: 3

Two beam interference, multiple beam interference, optical testing. Fraunhofer diffraction, Fresnel diffraction, the Fourier transform, Fourier methods in optics, Coherence, Holography.

OPT 444 - OPTOELECTRONICS

Semester Hours: 3

Reviews polarized light, propagation and modulation of light using effects of electro and acousto optics, Kerr, and Faraday. Photo-detection, signal processing, and signal-to-noise ratios. Design/analysis of beam scanners, various optical spectrum analyzers, sensors, and communication systems. Prerequisite: OPT 342.

OPT 445 - INTRODUCTION TO LASERS

Semester Hours: 3

Introduces concepts and principles of lasers. Stimulated emission, light amplification, optical pumping, optical resonator theory, cavity modes, gas lasers, solid state lasers, laser applications, Gaussian beams, coherence, and holography. Offered Fall, odd years. Prerequisite: PH 432. Prerequisite with concurrency: PH 351.

OPT 446 - RADIOMETRY, DETECTORS, SOURCES

Semester Hours: 3

Theory and practice of radiometry and photometry. Blackbody radiation and Lambertian sources. Propagation of radiant energy in free space and through optical systems. Detector classes, responsivity, bandwidth and noise. Power spectral density, properties of sources, photon noise. Prerequisites: OPT 342, MA 238, and PH 112.

OPT 447 - POLARIZED LIGHT & POLARIMETRY

Semester Hours: 3

Linear, circular, and elliptical polarization of light. Mueller and Jones calculi, Stokes vectors, measuring polarized light, polarization properties of crystals and thin films, polarization ray tracing. Offered Fall, odd years. Prerequisite: OPT 342.

Philosophy (PHL)

PHL 101 - INTRODUCTION TO PHILOSOPHY

Semester Hours: 3

Introduction to philosophical reflection focusing upon central problems in the major branches of the western tradition: metaphysics, epistemology and value theory.

PHL 102 - INTRO TO ETHICS

Semester Hours: 3

Major ethical positions in both classical and modern thought. The course may include a consideration of case studies drawn from practical contexts in engineering, medicine and other areas.

PHL 103 - INTRODUCTION TO LOGIC

Semester Hours: 3

Methodology of formal and informal reasoning.

PHL 150 - TECH, SCIENCE & HUMAN VALUES

Semester Hours: 3

A philosophical examination of the intersection of human values with science and technology. Questions include: what exists, the nature and extent of knowledge, and moral problems posed by technical and scientific change.

PHL 220 - CRIT THINKING FOR INTEL ANALYS

Semester Hours: 3

Examines critical reasoning strategies designed to correct cognitive biases and improve tradecraft skills in the context of intelligence analysis.

PHL 301 - ANCIENT PHILOSOPHY

Semester Hours: 3

Survey of classical philosophy from the Pre-Socratics through Aristotle. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 302 - MODERN PHILOSOPHY

Semester Hours: 3

Survey of the British and Continental traditions from Descartes through Kant. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 303 - CONTINENTAL PHILOSOPHY

Semester Hours: 3

Examination of important trends in the Continental tradition from nineteenth through twenty-first century thought.

PHL 310 - PHILOSOPHY OF ART

Semester Hours: 3

Major aesthetic theories of the western tradition, may include visual or non-visual arts. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 311 - PHILOSOPHY OF SCIENCE

Semester Hours: 3

Critical assessment of the historical and logical foundations of the natural and theoretical sciences. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 312 - AMERICAN PHILOSOPHY

Semester Hours: 3

Survey of American thought with emphasis upon the development of pragmatism in the work of Peirce, James, and Dewey. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 314 - ASIAN PHILOSOPHY

Semester Hours: 3

Survey of philosophical traditions from Asia, such as various schools of Buddhism and Hinduism, Confucianism, Daoism. Topics may include: conceptions of human nature and the good life, the nature of the self and its relation to society, comparisons to philosophies from Europe and North America. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 317 - PHILOSOPHY OF MIND

Semester Hours: 3

A philosophical examination of a range of models, theories, and arguments concerning the nature of mind and its relationship to the physical world. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 320 - SYMBOLIC LOGIC

Semester Hours: 3

Symbolic deductive logic, including propositional calculus (truth-functional logic), predicate calculus (propositional functions and quantification), and the logic of relations. Prerequisite: PHL 103.

PHL 330 - CLASSICAL POLITICAL PHILOSOPHY

Semester Hours: 3

Careful analysis of the roots of political inquiry in selected works of ancient and medieval political philosophers. Major themes include the search for a just social order, the proper relationship between the citizen and the state, and other fundamental concepts of western political institutions. Prerequisite: PHL 101 or PHL 102 or PSC 101.

PHL 332 - MODERN POLITICAL PHILOSOPHY

Semester Hours: 3

Critical examination of the philosophical foundations for modern politics that emerged from the 15th through the 19th century in western Europe. Major themes include the concepts of individual rights, property, representation, majority rule, limited government, and revolution. Prerequisite: PHL 101 or PHL 102 or PSC 101.

PHL 335 - FEMINIST PHILOSOPHY

Semester Hours: 3

Philosophical examination of issues related to feminism and feminist theory. Topics may include: women in the history of philosophy, contemporary feminist political theory, feminist ethics, feminist epistemology, or gender theory (including racial and sexual identity). Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 337 - PHILOSOPHY OF RACE

Semester Hours: 3

Philosophical examination of the nature and importance of race. Topics may include: the debate between essentialist and constructionist views of race, the political importance of race, and the intersection of race and other forms of identity. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 385 - SELECTED TOPICS

Semester Hours: 3

Intensive examination of particular problems, periods, or movements in the history of philosophy. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 395 - RESEARCH SEMINAR

Semester Hours: 3

Intensive examination of particular problems, periods, or movements in the history of philosophy. Intensive examination of selected topics leading to the preparation of a substantial philosophical paper. Required of all majors. May be taken twice for credit. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 397 - PHILOSOPHY INTERNSHIP

Semester Hours: 1-3

A supervised experience in a professional environment enhanced by a student's background in philosophy. Paid or unpaid. Prerequisites: 18 hrs of PHL, JR/SR standing, minimum 3.0 GPA in PHL Major, approval of department chair.

PHL 399 - DIR STUDY IN PHILOSOPHY

Semester Hours: 1-3

Independent study in an area of philosophy selected in consultation with faculty advisor. Requires approval of department chair. Prerequisite: 3 hrs of PHL, except PHL 103.

PHL 401 - METAPHYSICS

Semester Hours: 3

Critical examination of traditional and contemporary responses to questions about the nature of reality. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 402 - EPISTEMOLOGY

Semester Hours: 3

Investigation of fundamental problems of knowledge such as the relation of knowledge and belief, truth, certainty and skepticism, perception, logic, explanation, and justification. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 403 - ADV MORAL PHILOSOPHY

Semester Hours: 3

Critical examination of significant works in moral and political philosophy such as the relationship between morality and human nature, the individual and the state, and the consequences of actions. Prerequisite: 6 hrs of PHL, except PHL 103.

PHL 438 - CONTEMPORARY POLITICAL THOUGHT

Semester Hours: 3

Systematic study of recent and current thinking on issues and problems of politics, social theory, and ethics with special attention to the philosophical dimension of these issues and problems. Prerequisite: 6 hrs of PHL or PSC, except PHL 103.

Physics (PH)

PH 100 - CONCEPTUAL PHYSICS

Semester Hours: 4

Classical and modern physics survey course. Approach physical laws conceptually and intuitively, with minimal mathematics. Motion, gravitation, energy, electricity and magnetism, quantum mechanics, physics of everyday phenomena, philosophical and historical implications. Offered Spring.

PH 100L - CONCEPTUAL PHYSICS LAB

Semester Hours: 0

PH 101 - GENERAL PHYSICS I

Semester Hours: 4

Introductory non-calculus based course using algebra and trigonometry. The basic laws of physics and their application to specific problems. Newtonian mechanics, energy, conservation laws and thermodynamics. Laboratory included. PH 101 and 102 satisfy the laboratory science requirement. Offered Fall Corequisite: PH 101L.

PH 101L - GENERAL PHYSICS I LAB

Semester Hours: 0

Laboratory for PH 101 Corequisite: PH 101.

PH 102 - GENERAL PHYSICS II

Semester Hours: 4

Continuation of PH 101. Electrostatics, currents, magnetic phenomena, relativity, waves, quantum nature of matter. Laboratory included. Offered Spring. Prerequisite: PH 101. Corequisite: PH 102L.

PH 102L - GENERAL PHYSICS LAB II

Semester Hours: 0

Laboratory for PH 102 Corequisite: PH 102.

PH 110 - FRONTIERS IN SCIENCE

Semester Hours: 3

Introduces frontiers and problems of modern physical science. Physicists present the role of physics in diverse careers and physics fields. Introduction to physics applications and future employment opportunities motivates students to master skills required in undergraduate studies. Offered Fall. Freshmen physics majors (<30 credit hours), physics minors, and physics major transfers. All others by permission of chair.

PH 111 - GEN PHYSICS W/CALCULUS I

Semester Hours: 3

For science and engineering students. Basic laws of physics and their application to specific problems: vectors, Newtonian mechanics, energy, conservation laws, simple harmonic motion, statics, fluids. Offered all terms. Prerequisite: MA 171 Corequisite: PH 114.

PH 111R - RECITATION

Semester Hours: 0

PH 112 - GEN PHYSICS W/CALC II

Semester Hours: 3

Continuation of PH 111. Heat and thermodynamics, basic electricity, electric and magnetic fields. Offered all terms. Prerequisite: MA 172, PH 111, PH 114. Corequisite: PH 115.

PH 112R - RECITATION

Semester Hours: 0

PH 113 - GEN PHYSICS W/CALC III

Semester Hours: 3

Continuation of PH 111 and 112. Wave motion, optics, relativity, quantum effects, atomic and nuclear structure, and elementary particles. Offered all terms. Prerequisite: MA 201 (or higher), PH 112, and PH 115. Corequisite: PH 116.

PH 113R - RECITATION

Semester Hours: 0

PH 114 - GENERAL PHYSICS LAB I

Semester Hour: 1

Laboratory instruction in support of material covered in PH 111. Offered all terms. Corequisite: PH 111.

PH 115 - GENERAL PHYSICS LAB II

Semester Hour: 1

Laboratory instruction in support of material covered in PH 112. Offered all terms. Corequisite: PH 112.

PH 116 - GENERAL PHYSICS LAB III

Semester Hour: 1

Laboratory instruction in support of material covered in PH 113. Offered all terms. Corequisite: PH 113.

PH 251 - SPECIAL RELATIVITY

Semester Hour: 1

Einstein's theory of special relativity. Invariance, geometry of Minkowski spacetime, non-Euclidean geometry, Principle of Relativity, clock synchronization, Lorentz transformations, counter-intuitive effects measured in relative motion, casualty and the speed of light, relativistic dynamics. Prerequisite: PH 112 and MA 172. Prerequisite with concurrency: PH 113.

PH 301 - INTERMEDIATE MECHANICS

Semester Hours: 3

Reviews Newtonian mechanics, natural and driven oscillations, variational calculus and Lagrange's equations, application to central force motion, rigid body rotation and coupled oscillators. Offered Spring. Prerequisite: PH 111 and either PH 305 or MA 238.

PH 305 - MATH METHODS IN PHYSICS

Semester Hours: 3

Applied analytical techniques to solve problems in physics. Complex analysis, Fourier series, linear algebra, differential equations and vector calculus. Applications to mechanics, electricity and magnetism, optics, and thermodynamics. Offered Spring. Prerequisite: PH 112.

PH 306 - APPLIED PHYSICS

Semester Hours: 3

Computational and numerical techniques for problem solving. Applications to classical mechanics, electrodynamics, quantum mechanics, optics, and astrophysics. Offered Fall. Prerequisite: PH 305, (CS 102 or CPE 112 or CS 121) and (MA 238 or MA 244 or MA 324).

PH 310 - INTERMEDIATE LAB I

Semester Hours: 2

Experiments in classical physics. Introduction to statistical methods. Offered Fall. Prerequisites: PH 113 or 116.

PH 311 - INTERMEDIATE LAB II

Semester Hours: 2

Experiments in modern physics. Offered Spring. Prerequisite: PH 251 and PH 310.

PH 337 - ELECTRONICS

Semester Hours: 4

Introductory course for all science students. Basic AC and DC circuits, operational amplifier circuits, transistor circuits, power supplies, digital logic and their use in laboratory instruments. Laboratory included. Offered Fall, odd years. Prerequisite: PH 112.

PH 351 - INTRODUCTION TO MODERN PHYSICS

Semester Hours: 3

Kinetic theory, Blackbody radiation, Quantum physics: wave packets, the uncertainty principle, Schrodinger's equation and solutions for simple systems, application to atomic, nuclear, and solid-state physics. Offered Fall. Prerequisite: PH 113, and either MA 238 or 244. Prerequisite with concurrency: PH 251.

PH 416 - SENIOR LABORATORY

Semester Hours: 2

Advanced experimental techniques in various sub-fields of physics. Offered Fall, Spring. Prerequisite: PH 311.

PH 420 - SENIOR THESIS

Semester Hours: 3

Research performed under direction of a faculty member. Final research report required. Offered all terms.

PH 421 - THERMAL & STATISTICAL PHYSICS

Semester Hours: 3

States of model system, entropy and temperature, Boltzmann distribution, thermal radiation and Planck distribution, chemical potential and Gibbs distribution, ideal gas, Fermi and Bose gases, heat and work, semiconductor statistics, kinetic theory. Offered Spring, even years. Prerequisite: PH 351. Prerequisite with concurrency: PH 301.

PH 431 - INTERM ELECTRICI & MAGNETISM I

Semester Hours: 3

Electrostatics: electric fields, electric potential, Poisson's equation. Electric fields in matter. Magnetostatics: currents, magnetic fields. Magnetic fields in matter. Prerequisite: PH 305 and MA 201. Prerequisite with concurrency: MA 238.

PH 432 - INTERM ELECTRIC & MAGNETISM II

Semester Hours: 3

Continuation of PH 431. Maxwell's equations for time-varying fields, Electromagnetic waves, AC circuits, Radiation, and Relativistic electrodynamics. Offered Spring, odd years. Prerequisite: PH 431.

PH 451 - INTRO QUANTUM MECHANICS I

Semester Hours: 3

Waves and particles: deBroglie waves, wave-packets, and the uncertainty principle. Postulates of quantum mechanics. Schrodinger's equation: simple systems in one, two and three dimensions, the hydrogen atom. Angular momentum and spin. Offered Fall. Prerequisite: PH 305, PH 351, and (MA 244 or MA 238).

PH 452 - INTRO QUANTUM MECHANICS II

Semester Hours: 3

Multiparticle systems, Atomic structure, Approximation methods, Scattering, Applications to nuclear, atomic, and molecular systems. Offered Spring. Prerequisite: PH 451.

PH 453 - INTRO TO PARTICLE PHYSICS

Semester Hours: 3

Surveys elementary particle physics, Standard Model of quarks, leptons, and gauge bosons. Lorentz transformations, four-vectors and relativistic kinematics, angular momentum and spin. Lifetimes, cross-sections, and Feynman rules. Quantum electro and chromo-dynamics, Dirac equation, renormalization. Prerequisite with concurrency: PH 451.

PH 474 - INTRO TO GENERAL RELATIVITY

Semester Hours: 3

Introduces general relativity and gravitational physics as inferred from the behavior of particles and light rays for a selection of spacetimes. Major properties of black holes, wormholes, gravitational waves. Physics First approach, and introduces new math as required for discussion of physics. Prerequisite: PH 251 and PH 301.

PH 480 - SELECTED TOPICS

Semester Hours: 1-3

Offered upon demand. Topics include physics, optics, astrophysics, and space physics. Offered all terms. Prerequisite: PH 113 and MA 201.

PH 489 - SELECTED TOPICS

Semester Hours: 1-3

Offered upon demand. Topics include physics, optics, astrophysics, astronomy, computational physics, and space physics. Offered all terms. Prerequisites: PH 113 or 116 and MA 201.

PH 499 - PHYSICS PRACTICUM

Semester Hours: 3

"Capstone" course designed to provide real-world research experience for graduating seniors. Students work individually with faculty members on projects. Requires oral presentation and final research report. Offered all terms. Required courses on the POS must be taken prior to, or concurrently with, this course.

Political Science (PSC)

PSC 101 - INTRO TO AMERICAN GOVERNMENT

Semester Hours: 3

What motivates individuals and groups to act politically? This course introduces students to political structures, decision-making, and public policy in the U.S. The role of history in the development of current institutional structures and current political developments will be considered.

PSC 102 - INTRO TO COMPARATIVE POLITICS

Semester Hours: 3

In this class we explore ways to compare countries and political systems. We study a wide variety of countries for a better understanding of political dynamics around the world. This includes countries at various stages of industrialization and democratization, in different regions of the globe.

PSC 103 - INTRO TO STATE & LOCAL GOVT

Semester Hours: 3

Surveys the principles, forms, functions, and processes of state and local governments in the context of the American federal system, with specific emphasis on the political environment. Students will better understand the major functions of and the issues facing state and local governments.

PSC 260 - INTRODUCTION TO INTERNATIONAL RELATIONS

Semester Hours: 3

Examination of the basic factors underlying the conduct of international relations, focusing on conflict and changes taking place due to globalization. This course also seeks to stimulate intellectual curiosity, enhance critical thinking, and improve oral and writing skills.

PSC 300 - INTRO SOCIAL SCIENCE STATISTIC

Semester Hours: 3

This course covers basic statistical concepts, techniques, and the language of statistics; simple statistical modeling correlation and regression analysis; and nonlinear models and categorical models. Students will apply appropriate methods to analyze real world problems.

PSC 302 - AMERICAN CONGRESS

Semester Hours: 3

Studies the organization and role of the Congress, its leadership, internal processes, and relationships with other parts of the political system. The goal is to understand why Congress looks and acts the way it does, whose interests are represented, and how and why policies emerge as they do. Prerequisite: PSC 101.

PSC 304 - AMERICAN PRESIDENCY

Semester Hours: 3

Examination of the institution of the American presidency, its power, and the forces that shape it. Focus on developing students' ability to think conceptually and critically about the presidency, the president's role in the political system, and American politics in general. Prerequisite: PSC 101.

PSC 309 - POLITICAL PARTIES & INT GROUPS

Semester Hours: 3

A survey of major linkages between citizens and government, this course studies the formation, organization, activities, and impacts of political parties and interest groups - and factors affecting them. Students will think critically about these institutions and their roles in the American system. Prerequisite: PSC 101.

PSC 330 - CLASSI POLITI PHILOSOPHY

Semester Hours: 3

Careful analysis of the roots of political inquiry in selected works of ancient and medieval political philosophers. Major themes include the search for a just social order, the proper relationship between the citizen and the state, and other fundamental concepts of western political institutions. Prerequisite: PSC 101 or PHL 101 or PHL 102 or PHL 202 or permission of instructor.

PSC 332 - MODERN POLITICAL PHILOSO

Semester Hours: 3

Critical examination of the philosophical foundations for modern politics that emerged from the 15th through the 19th century in western Europe. Major themes include the concepts of individual rights, property, representation, majority rule, limited government, and revolution. Prerequisite: PSC 101 or PHL 101 or PHL 102 or permission of instructor.

PSC 334 - AMER POLITICAL THOUGHT

Semester Hours: 3

In-depth study of theorists, concepts and forces that have shaped American political values from the founding of the republic to the present. Major themes include the relationship between liberty and equality, rights and democracy, and industrialization and the public good. Prerequisite: PSC 101.

PSC 399 - CURRENT AFFAIRS

Semester Hour: 1

An examination of current national and international issues. Focus is on developing critical reading, listening, and writing skills. The course may be repeated up to three times.

PSC 420 - FEDERALISM & INTERGOV RELATION

Semester Hours: 3

Designed to help students navigate complex relationships among the 90,000+ governments in the U.S., this course examines the framework of federalism and the tools available to governments to influence public policy outcomes. Students will investigate the impacts of these relationships on policy. Prerequisite: PSC 101.

PSC 436 - POLITICAL IDEOLOGIES

Semester Hours: 3

Critical examination of the philosophical foundations and political ethics of contemporary political ideologies. Among the major ideologies studied will be relevant examples of conservatism, liberalism, Marxism, Nazism, and religion, such as liberation theology and Islamism. Prerequisite: PSC 101.

PSC 438 - CONTEMPORARY POLITICAL THOUGHT

Semester Hours: 3

Systematic study of recent and current thinking on issues and problems of politics, social theory, and ethics with special attention to the philosophical dimension of these issues and problems.

PSC 440 - REGIONAL STUDIES

Semester Hours: 3

This class compares and examines the politics of Asia, Latin America, the Middle East, or Africa, depending on the term. We focus on select countries of themes within each region as part of our study of political structures, history, and culture, for a deeper understanding of each area. Prerequisites: PSC 101 and PSC 102.

PSC 451 - LAW, COURTS, & PUBLIC POLICY

Semester Hours: 3

Examines the role of the courts in the making of public policy in the United States, with an emphasis on the use of the courts by interest groups seeking to achieve specific policy goals. Prerequisite: PSC 101.

PSC 452 - AMER CONSTITUTIONAL LAW

Semester Hours: 3

Examination of the structure of the federal government and its powers through an analysis of leading cases from the Supreme Court. Topics include federalism, separation of powers, and the proper role and decision-making process of the Supreme Court. Prerequisite: PSC 101.

PSC 454 - CIVIL LIBERTIES

Semester Hours: 3

Examines the relationship between the government and individuals in American society through an analysis of Supreme Court cases. The focus is on contemporary questions about the rights of individuals and appropriate limits to freedom of action set by government. Prerequisite: PSC 101.

PSC 461 - ECONOMIC DEVELOPMENT

Semester Hours: 3

Understand economic development in the developing world. Examine economic transformation & social justice. Highlight domestic and international institutional, structural, & political sources of economic dynamism/lack thereof in the Global South. Prerequisites: Junior standing or higher.

PSC 462 - DECN MKNG FOREIGN & SEC PLCY

Semester Hours: 3

An examination of the history, culture, policies, and structures shaping the development of U.S. foreign and national security policies. Special attention will be placed on the roles of Congress, National Security Council, Defense Department, State Department, and the intelligence community. Prerequisite: PSC 101.

PSC 464 - AMERICAN FOREIGN POLICY

Semester Hours: 3

An examination of the substance of contemporary U.S. foreign policies and the goals the country seeks to achieve around the world. Students will attempt to evaluate the effectiveness of those policies and examine why it is often difficult for the country to achieve its goals. Prerequisite: PSC 101.

PSC 466 - NATL SECURITY STRATEGY & PLCY

Semester Hours: 3

An examination of current U.S. national security strategy and policy. The course will review current strategy and policy documents, examine specific responses to the variety of threats facing the United States, and evaluate whether those policies are effective at achieving their goals. Prerequisite: PSC 101.

PSC 470 - ISSUES IN SECURITY POLICY

Semester Hours: 3

Examination of select security-related policy issues. The content of this course will vary during different terms, and students may take the course multiple times so long as the content differs. Prerequisite: PSC 101.

PSC 480 - ADV TOPICS POLITICAL SCIENCE

Semester Hours: 3

Select topics in local, state, national and world politics. This course may be repeated for credit as long as content of the course has changed.

PSC 484 - SENIOR SEMINAR

Semester Hours: 3

This class engages students in an advanced examination of the subfields of political science that are offered by the department. The course may be repeated with different faculty for up to 6 hours of credit. Prerequisites: PSC 101 and PSC 102.

PSC 495 - INTERNSHIP IN GOVERNMENT

Semester Hours: 1-6

Students may receive academic credit for an internship with a local, state, or federal governmental agency, or with political, legal, or public policy related organizations. Prerequisite: Instructor Permission.

PSC 498 - DIRECTED READINGS & RESEARCH

Semester Hours: 3

Supervised in-depth readings and/or individual research in an area of specialized interest to both student and instructor. Open to all students who have completed 15 semester hours in Political Science and have permission of the instructor.

Professional Studies (PRO)

PRO 101 - INTRO COLLEGE ACADEMY

Semester Hours: 3

Focus is on learning theory, discovering learning style preferences and appropriate, effective study methods, understanding the issues facing college students today and strategies to overcome them, learning about available campus academic and student support resources and how to utilize them improving oral and written communication skills. Identifying UAH academic organizations and recognizing the importance of involvement and developing the skills. Must be part of College Academy. May not be used for Charger Foundations.

PRO 280 - PRIVATE PILOT GROUND SCHOOL

Semester Hours: 3

Prepares student for FAA Private Pilot written examination. Provides student with necessary knowledge to progress into primary pilot flight training. A kit for approximately \$150 must be purchased.

PRO 301 - THRY & PRAC ADULT LEARNING

Semester Hours: 3

This course presents an overview of five foundational learning theories and related research in adult education and development. The conceptual framework is centered on discovering what motivates the adult learner and the impact social perspectives have on adult learning through analysis and discussion. Students will define competencies needed for success in academic study and professional leadership, in setting educational goals, and in planning a learning experience to achieve them. Emphasis is placed on issues unique to adult re-entry students and the university services available to support nontraditional students.

PRO 310 - ACADEMIC WRITING PROFESS STUDI

Semester Hours: 3

Students will learn academic writing skills by engaging in the process of academic inquiry and argument. The course will cover a broad perspective of writing by exploring various writing and research styles used through different academic professions. Prerequisites: EH 102 or EH 105.

PRO 320 - INDS PERSPECT & CRITICAL THNKG

Semester Hours: 3

Interdisciplinary studies fosters foundational knowledge acquisition by which individuals draw on multiple disciplinary perspectives and integrate their insights and modes of thinking to advance the studies and the fundamental development of critical and analytical thinking skills. Complex issues are addressed from multi-faceted perspectives that stimulate problem solving, problem defining and problem posing. Emphasis is placed on how to synthesize evidence drawn from multiple sources as a basis for informed decision-making.

PRO 321 - MEDIA LITERACY

Semester Hours: 3

Investigate the interdisciplinary nature of 21st-century media. Students analyze the combined influence of production methods, semiotics, politics, ethics, and psychology on our critical understanding of advertising, propaganda, conspiracy theories, social media, and the Internet of Things. Prerequisite: EH 102.

PRO 322 - TECHNOLOGY, SCIENCE & SOCIETY

Semester Hours: 3

Apply critical thinking and conceptual tools to understand implications of technology and science on society by examining scientific facts, social impacts or new technology, and benefits and risks of rapid changes through an interdisciplinary theoretical framework. Prerequisite: EH 102.

PRO 325 - INDS RESEARCH & APPLICATIONS

Semester Hours: 3

Interdisciplinary research is a contemporary decision-making process for transcending the scope of a single discipline or program to develop insights that offer bold advances in knowledge, solutions to urgent societal problems, an edge in technological innovations, and a more integrative knowledge of multidisciplinary theories and concepts. This course introduces the primary drivers for interdisciplinary research and examines the interdisciplinary research process. Students will apply an integrated model for conducting research that draws on multiple disciplines. Prerequisites: PRO 310 and PRO 320.

PRO 398 - SPEC TOPICS: INTERDISC STUDIES

Semester Hours: 3

Course uses an interdisciplinary approach to draw on intersecting and divergent knowledge from a variety of scholarly disciplines in order to create an in-depth and multi-faceted understanding of a particular instructor chosen issue, topic or problem. Prerequisite: EH 102.

PRO 399 - INDEP STUDY: INTERDISC STUDIES

Semester Hours: 3

Course allows individual students to pursue an interdisciplinary topic of interest which is not otherwise available and may involve any combination of readings assignments, tutorials, lectures, papers, presentations, or field/laboratory study (determined in consultation with instructor). Prerequisite: PRO 325.

PRO 498 - INQUIRY AND LEARNING

Semester Hours: 3

Inquiry-based learning accelerates understanding, fosters critical thinking skills, and facilitates self-direction and discovery. Using this method, students will identify an interdisciplinary problem related to their approved concentration area, perform the foundational research, and formulate a research proposal. This is the first of a two-semester progression to complete a Capstone research thesis/project in PRO 499. Prerequisite: PRO 325.

PRO 499 - CAPSTONE EXP: RSCH THESIS/PROJ

Semester Hours: 3

Students majoring in Professional Studies are required to complete a senior research thesis in their approved interdisciplinary concentration. This Capstone course requires the student to demonstrate his/her ability to integrate the core knowledge and skills gained in their interdisciplinary areas of study using inquiry-based learning methods. Research is conducted and a thesis-style paper is written and orally presented. Prerequisite: PRO 498 with minimum grade of C-.

Psychology (PY)

PY 101 - GENERAL PSYCHOLOGY I

Semester Hours: 3

Introduction to methods and research findings in the field. Topics include learning, memory, cognition, human development, personality theories, and abnormal behavior. Credit for PY 101 may be obtained by either Advanced Placement (AP) or the College Level Examination Program (CLEP).

PY 102 - APPLICATIONS IN PSYCHOLOGY

Semester Hours: 3

Introduction to applied topics in psychology, such as statistical analysis, counseling, human factors, health psychology, and industrial and organizational psychology. Career opportunities are discussed. Students are required to engage in approved experiential activities such as participating in current research studies and attending lectures. Prerequisite: PY 101.

PY 201 - LIFE-SPAN DEVELOPMENT

Semester Hours: 3

Examination of the psychological, social, and physical factors that affect human behavior and development from conception to death. Prerequisite: PY 101.

PY 300 - PSYCHOLOGICAL STATISTICS

Semester Hours: 3

Introduction to psychological statistics, with an emphasis on quantitative analysis of experimental data. Topics covered include probability, descriptive statistics, and hypothesis testing. Prerequisite: MA 107 or MA 110 or MA 112 or MA 113 or MA 115 or MA 120 or MA 171. Corequisite: PY 300L.

PY 301 - PERSONALITY

Semester Hours: 3

Examinations of various theories of personality with possible implications for research. Prerequisite: PY 102.

PY 302 - EXPERIMENTAL PSYCHOLOGY

Semester Hours: 4

Design and execution of experiments in psychology. Data analysis and manuscript preparation. Prerequisite: PY 102 and PY 300 and PY 300L or AHS 300.

PY 303 - PY RESEARCH METHODS

Semester Hours: 3

Students will learn the fundamentals of psychological research - how to form research questions and hypotheses, select an appropriate design to ethically address specific research questions, and how to critically evaluate research and findings. Student will also be taught about creating surveys, interviewing and observing participants. Prerequisites: PY 101, PY 102, PY 300 and PY 304.

PY 304 - PSYCHOLOGICAL STATISTICS LAB

Semester Hour: 1

This course is an introduction to analyzing data with computerized statistical software. This course will provide students with a familiarity of SPSS, and the abilities to analyze experimental data, read computer statistical output and write-up statistical results. Corequisite: PY 300.

PY 305 - PY RESEARCH METHODS LAB

Semester Hour: 1

Lab associated with PY 303. Covers the design and execution of quantitative and qualitative research designs, data analysis, and manuscript preparation.

PY 316 - PERCEPTION

Semester Hours: 3

Examines sensory systems and elements of perception. Topics include vision research, audition, chemical senses, and body sensations. Prerequisite: PY 102.

PY 317 - PHILOSOPHY OF MIND

Semester Hours: 3

The problem of the nature of mind and its relationship to the physical world has been a perennial concern of philosophy. This course examines, theories, and arguments concerning the nature of mind. Prerequisite: PY 102.

PY 324 - WORK DESIGN

Semester Hours: 3

Introduces the portion of the design process that uses basic principles of methods analysis and ergonomics to fit a task to the human operator. Methods analysis topics include: work measurement, job analysis, and job evaluation. Prerequisite: PY 300 or ISE 390.

PY 330 - NONVERBAL COMMUNICATION

Semester Hours: 3

Examines the diversity of specific human nonverbal behavior such as eye contact, touch, time, appearance, and distance and how these behaviors influence everyday communication experiences. Drawing on theory, students explore the practical ways verbal and nonverbal communication intersect in everyday interactions to create shared meaning. Same as CM 330. Prerequisite: PY 101.

PY 333 - PY OF ADJUSTMENT & ADAPTATION

Semester Hours: 3

PY 333 will explore psychological approaches to understanding, managing, and modifying our physical and emotional well-being. Students will learn ways to apply psychological principles and concepts to enhance coping with various issues of adulthood. Relationships with others, the environment and the self will be examined. Prerequisites: PY 101 and PY 102.

PY 375 - SOCIAL PSYCHOLOGY

Semester Hours: 3

Examination of the social influences on both individual and group behavior. Topics may include attitudes, group processes, intergroup conflict, interpersonal attraction, aggression, altruism, and impression formation. Prerequisite: PY 101 or SOC 100.

PY 399 - PROFESSIONAL DEV FOR PSY MAJOR

Semester Hour: 1

Development of skills related to graduate work and to occupations in psychology. Career and internship exploration, resume and graduate school exploration. Exposure to work and research related topics, such as teamwork and ethics. Prerequisite: PY 102.

PY 400 - INTRO TO CLINICAL & COUNSELING

Semester Hours: 3

PY 400 introduces clinical/counseling psychology and professional psychology. History of diagnosis and treatment, theoretical models in counseling, contemporary practice models, research basis of clinical/counseling psychology, empirically validated therapies, and doctoral program models are covered. Prerequisite: PY 101 and Sophomore standing or higher.

PY 402 - INDUSTRIAL & ORGANIZA PSY

Semester Hours: 3

Application of basic principles of learning, motivation, and perception to typical industrial and organizational problems. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 403 - HUMAN FACTORS PSYCHOLOGY

Semester Hours: 3

Human performance in human-technology-environment systems. Includes consideration of human capabilities and limitations as related to controls and displays. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 404 - THEORIES OF COUNSELING

Semester Hours: 3

This course is designed to introduce theories of psychotherapy and the process of psychotherapy and counseling. This course is a survey of counseling/psychotherapy models and techniques with emphasis on Empirically Validated Therapies (EVT) and traditional models with substantial support in the research and clinical literature.

PY 405 - PSYCHOPHARMACOLOGY

Semester Hours: 3

Introduction to drug classification and action with emphasis on physiological psychological interactions. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 406 - PSYCHOLOGY OF WOMEN

Semester Hours: 3

Examines theory and research in the psychological functioning of women, both in the United States and other nations. Topics include achievement and education, mental and physical health issues, and victimization of women. Open to students who have completed 15 hours of psychology. Senior Standing. Prerequisite: PY 102.

PY 407 - CROSS-CULTURAL PSYCHOLOGY

Semester Hours: 3

Examines psychological similarities and differences between members of industrialized and non-industrialized cultures. Comparisons will include development, social interaction, and perception. Open to students who have completed 15 hours of psychology. Senior Standing. Prerequisite: PY 102.

PY 408 - TEAMWORK & TEAM PROCESSES

Semester Hours: 3

This course provides an introduction to teams and teamwork processes. The foundation of the course is research-based; topics will be approached from the context of empirical research. The types of research designs that are typically used in team research are addressed. Junior Standing.

PY 409 - PSYCHOLOGY OF AGING

Semester Hours: 3

PY 409 examines psychological processes in adulthood and aging. Emphasis is placed on contemporary theories, methodological issues, and how psychological, biological, social, and environmental factors interact to predict growth, maintenance, or decline in abilities throughout adulthood and aging. Prerequisite: PY 101.

PY 410 - TASK ANALYSIS & PROTOTYPING

Semester Hours: 3

This course introduces students to methods for analyzing user actions as they interact with software and tools to complete tasks. Students apply a range of prototype techniques from fast, low-fidelity prototypes to interactive high-fidelity prototypes. Junior standing or higher.

PY 414 - HUMAN RESEARCH:LEARNING

Semester Hours: 3

Analysis of learning principles from simple relationships with animals to the complexities of human language and problem solving. Prerequisite: PY 102.

PY 415 - DEVELOPMENTAL PSYCHOLOGY

Semester Hours: 3

Examination of cognitive, psychoanalytic, ethological, behavioral, and humanistic theories of development. Prerequisites: PY 101 and PY 102 or written permission of instructor.

PY 420 - SPECIAL TOPICS

Semester Hours: 3

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 422 - INDIVIDUAL RESEARCH

Semester Hours: 3

With advice of instructor, design and execution of original experiment in psychology. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 426 - HISTORY & SYSTEMS IN PSY

Semester Hours: 3

Survey of psychological theory and experimentation regarding human behavior and mental processes from ancient times to the present. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 430 - PSYCHOMETRICS

Semester Hours: 3

History and development of psychological testing with special emphasis given to both theory and process of effective evaluation. Prerequisite: PY 300.

PY 434 - PSYCHOLOGY AND LAW

Semester Hours: 3

This seminar is a survey of the major topics represented in the field of Psychology and Law. We will focus on how psychological research can contribute to a better understanding of issues related to law. Open to students who have completed 15 hours of psychology. Prerequisite: PY 302.

PY 435 - PSYCHOPATHOLOGY

Semester Hours: 3

Survey of major psychological approaches to conceptualizing abnormal behavior, with discussion of present diagnostic categories of psychological disorders. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 436 - BIOLOGICAL PSYCHOLOGY

Semester Hours: 3

Neural and endocrinological systems underlying behavior. Open to students who have completed 15 hours of psychology. Prerequisites: (either a or b): (a) 15 hrs of PY or approval of instructor; (b) BYS 119 and BYS 120 and 6 hours of PY or approval of instructor. Same as BYS 436.

PY 437 - PSYCHOBIOLOGY STRESS & ILLNESS

Semester Hours: 3

Overview of physiological stress responses and their influence on health behavior and illness. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 480 - COGNITION

Semester Hours: 3

Information processing: how information is acquired, encoded, organized, stored, and retrieved. This process will be applied to specific areas of psychology such as language, learning, or personality. Prerequisite: PY 102.

PY 488 - PY SERVICES INTERNSHIP

Semester Hours: 1-3

This course provides a supervised experience in a professional environment for students to apply their psychological skills to projects outside the classroom, facilitate their entry into the job market in psychological services after graduation, and enhance their pre-professional experience. Prerequisites: 18 hrs of Psychology courses; junior or senior standing; minimum 2.5 GPA in major, chair's approval.

PY 490 - READINGS IN PSYCHOLOGY

Semester Hours: 3

Supervised in-depth readings in area of particular interest to student. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 491 - SPECIAL TOPICS IN PSYCHO

Semester Hour: 1

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 492 - SPECIAL TOPICS IN PSYCHO

Semester Hours: 2

Pre-announced special areas in seminar discussion, laboratory work, or practicum. May be taken twice for credit. Open to students who have completed 15 hours of psychology. Prerequisite: PY 102.

PY 498 - HUMAN RESEARCH I

Semester Hours: 3

Capstone course for the PY major. Human behavior observation and/or experimentation. Students engage in data collection and analysis, and report their findings. Offered Fall Semester only. Prerequisite: PY 302.

PY 499 - HUMAN RESEARCH II

Semester Hours: 3

Continuation of PY 498. Open to students who have completed 15 hours of psychology. Prerequisite: PY 498 and approval of instructor. Offered Spring Semester only.

Sociology (SOC)

SOC 100 - INTRO TO SOCIOLOGY

Semester Hours: 3

An introduction to the critical and scientific study of society, culture, social institutions and social change. Illuminates the social and cultural context of our lives and is useful for exploring contemporary social issues, problems and change in society.

SOC 102 - ANALYSIS OF SOCIAL PROBLEMS

Semester Hours: 3

Application of the sociological perspective to understanding the "social problems process." Among other things, the course addresses how some troubling social conditions come to be identified as "problems" while others do not, as well as how some "solutions" (e.g. policies) are implemented while others are not.

SOC 103 - INTRO TO CRIMINOLOGY

Semester Hours: 3

A broad introduction to the sociological study of crime and the criminal justice system in the United States exploring sources of crime, measurement of crime, theories of crime, and the criminal justice system.

SOC 206 - MARRIAGE AND FAMILY

Semester Hours: 3

Explores family forms and functions across history and across cultures. Students will learn how the family affects and is affected by other social institutions, recent trends in the American family, the contexts in which marriage and families evolve, and key inequalities within and between families. Prerequisite: SOC 100.

SOC 301 - RESEARCH METHODS

Semester Hours: 3

The object of this course is for students to be able to read, interpret, and explain scientific research in social science. Course covers key elements and process of sociological research methods, both qualitative and quantitative. Prerequisite: SOC 100.

SOC 302 - SOCIOLOGICAL THEORY

Semester Hours: 3

This course traces the development of major trends of sociological theory, past and present, and major theoretical problem areas. It also addresses how the socio-historical context within which the texts were written influences the issues and ideas expressed. Prerequisite: SOC 100.

SOC 303 - STATISTICS/SOCIAL SCIENCES

Semester Hours: 3

Introduction to the basic quantitative data analysis techniques used by social scientists. Explore the ways researchers use statistics to examine and test ideas about the social world. In the lab, students learn how to use the statistical software SPSS to analyze social science datasets. Prerequisite: One of the following math courses: MA 107, MA 110, MA 112, MA 113, MA 115, MA 120, MA 171.

SOC 304 - STATISTICS LAB

Semester Hour: 1

SOC 306 - SOCIOLOGY OF GENDER

Semester Hours: 3

Explores how social relationships create, structure and reinforce gender differences and inequalities. Students will learn about the social construction of gender, gender socialization, gender roles, and gender inequalities in income, poverty, occupation, and violence. Prerequisite: SOC 100.

SOC 307 - SOCIOLOGY OF LAW

Semester Hours: 3

This course examines the relationship between law and society from a variety of theoretical perspectives. Topics include the social organization of legal institutions, cultural meanings of law, and social interactions among different actors in the legal context (police, lawyers, judges, legislators, etc).

Prerequisite: SOC 100.

SOC 309 - SOCIOLOGY OF SEXUALITY

Semester Hours: 3

A research based study of sexuality focusing on how it is constructed, experienced, challenged, and changed within society. Upon completion of the course students will be able to recognize, understand, and articulate how society both structures and is structured by sexuality. Prerequisite: SOC 100.

SOC 313 - QUALITATIVE RESEARCH METHODS

Semester Hours: 3

Teaches ethnography, interviewing, focus groups, and content analysis. Includes an in-class data analysis practicum. Upon completion, students will be able to understand, articulate, and assess qualitative methods as well as independently collect, analyze, and report findings from qualitative data.

Prerequisite: SOC 100.

SOC 319 - DEVIANCE & SOCIAL CONTROL

Semester Hours: 3

Examines several approaches to studying deviant behavior and its social control, with emphasis on the social construction of deviance and societal reactions to it. The focus is generally on deviation and control in the U.S. Prerequisite: SOC 100.

SOC 320 - SOCIOLOGY OF RELIGION

Semester Hours: 3

Study of religion as a social phenomenon. The course examines sociological theories of religious behavior, religious beliefs, religion as a social institution, religious organization, new religious movements, and religion and social change. Prerequisite: SOC 100 or instructor permission.

SOC 325 - SOCIOLOGY OF EDUCATION

Semester Hours: 3

This course examines education systems and policies from a sociological perspective. We ask what and how students learn, the function of schools in society, results of recent policy decisions, and how educational systems interact with political, economic, cultural and family institutions. Prerequisite: SOC 100.

SOC 330 - RACE AND ETHNICITY

Semester Hours: 3

Examines the historical relationship between race, ethnicity and economic class/opportunity; and the social construction of ethnicity and race. The emphasis is on race and ethnicity in the U.S. with some discussion of international issues. Prerequisite: SOC 100.

SOC 340 - SPECIAL TOPICS

Semester Hours: 1-3

Nontraditional topics of current sociological interest. Title of course and number of credit hours when offered will appear in course schedule along with prerequisites necessary for admission to course. May be taken more than once for credit as long as subtitles differ. Prerequisite: SOC 100.

SOC 350 - MONEY AND POWER

Semester Hours: 3

This course examines how access to money and power shape life outcomes. Students will learn about factors shaping historical and current patterns of economic inequality in the U.S., including labor markets, corporations, immigration, and changing social welfare policies. Along the way, we explore who has the power to make decisions and shape access, opportunities for social mobility, the roles of gender and race, and patterns of privilege and oppression.

SOC 369 - ENVIRONMENTAL SOCIOLOGY

Semester Hours: 3

Examines the ways in which society and the natural environment interact and shape each other. This course engages with the major debates in the field of environmental sociology in order to better understand the challenges and options humans face as we head further into global environmental crisis.

Prerequisite: SOC 100.

SOC 375 - SOCIAL PSYCHOLOGY

Semester Hours: 3

Fundamental principles of group processes, social influence, and group structure. Development of group solidarity, cohesion, intergroup conflict and cooperation, communication, leadership, opinion, propaganda, and suggestion. Prerequisites: SOC 100 or PY 101.

SOC 382 - WHITE COLLAR CRIME

Semester Hours: 3

This course explores white collar crime in depth, considering both how it is defined and theoretical perspectives about why it occurs. Broadly, the course considers occupational crimes (e.g. embezzlement & employee theft), corporate crimes (e.g., securities fraud & price fixing), and political crimes (e.g., state corruption & repression). Students also discuss its costs to society, identifying both perpetrators and victims. Prerequisites: SOC 100 or SOC 103.

SOC 384 - DRUGS AND SOCIETY

Semester Hours: 3

This course focuses on understanding drug use from sociological and criminological perspectives; it examines the prevalence of drug use, the impact of drug use on individuals and society, and society's response to drugs. Prerequisites: SOC 100 or SOC 103.

SOC 390 - READINGS & INDIVIDUAL RES

Semester Hours: 3

Supervised readings or in-depth research or both in area of specialized interest to student or instructor. May be taken twice for credit with advisor's approval. Prerequisite: SOC 100.

SOC 395 - COMMUNITY SERVICES INTERNSHIP

Semester Hours: 3

An experiential-learning course for students who envision working in social service organizations. Internship opportunity is initiated by student and course includes an academic component of readings and assignments agreed upon by student, organizational representative and the Internship Coordinator. Prerequisite: SOC 100.

SOC 431 - ADVANCED SPECIAL TOPICS

Semester Hours: 3

Special topics of current sociological interest. Course title, credit hours and prerequisites will appear in course schedule. May be taken more than once for credit as long as subtitles differ. Different from SOC 340 Special Topics in terms of level of expectations and/or, prerequisites. Prerequisite: SOC 100.

SOC 495 - SENIOR CAPSTONE SEMINAR

Semester Hours: 3

This course allows senior sociology majors to transition from being consumers of sociological knowledge, to being producers and practitioners. Students can choose one of two tracks for this course: completing either an independent research project or an internship at a local social service organization. Prerequisite: SOC 301.

Sport & Fitness Management (SFM)

SFM 265 - INTRO TO SPORT MGMT

Semester Hours: 3

This 3 hr course provides the student with knowledge of sport management and administration in both athletics and leisure-based sports. Topics include management concepts, roles and responsibilities, fiscal management, fund raising, legal issues, event scheduling and decision making.

SFM 381 - FACILITIES AND EQUIPMENT MGT

Semester Hours: 3

This course will provide theories for the design, development, operation, maintenance, and management of sport and fitness facilities. Prerequisite: KIN 260.

SFM 382 - SPORT LEADERSHIP

Semester Hours: 3

This course focuses on the role of leadership in general, with a specific application to a sport setting. We will focus on the numerous approaches to leadership that have been used, and emphasize illustrating and applying them to different aspects of sports. Prerequisites: KIN 260.

SFM 383 - SOCIOLOGY IN SPORT

Semester Hours: 3

This course is designed to study the role sport plays as a social institution. Additionally, we will identify what social institutions are most affected by sport and how these institutions are created. Topics will include the definition of sport as well as why and how it is studied, the effect of sport on society, sport as an institution, and sport and culture. Prerequisite: SOC 100.

SFM 384 - EVENT MANAGEMENT

Semester Hours: 3

This course investigates event management (in a planning and administration of sports events context) using a secondary objective model for planning, implementation management of events. This management of an event will include aspects such as event planning, event promotion, event sponsorship, recruiting & managing volunteers, event risk management, and event facilitation. The financial elements of sports event management will be Prerequisites: SFM 265 or KIN 265.

SFM 385 - WOMEN IN SPORT

Semester Hours: 3

The course examines the effects of Title IX, and other historical events that have influenced the inclusion of women in participating in various aspects of sports and the role of women in sports industry through a contemporary approach to sport leadership, management and media. Prerequisite: SOC 100.

SFM 442 - INTRO TO SPORT LAW

Semester Hours: 3

This course is designed to introduce students to the legal doctrines, major statutes, standards, and case law that establish legal responsibilities, rights, privileges and controls related to the field of exercise and sport sciences. Prerequisite: KIN 260.

SFM 443 - ST SPORTS & FITNESS MGMT

Semester Hours: 3

This course will address a variety of topics based on emerging trends in Sport Administration. Potential course offerings will include coach education, advanced legal issues, sport sociology, sport finance and accounting and globalization of sport. Course content will be offered in rotation as needed. Prerequisite: KIN 260.

SFM 470 - SPORT MARKETING

Semester Hours: 3

Sport Marketing presents an overview of the various techniques and strategies used in meeting the wants and needs of consumers in the sport industry as well as the understanding how sport can be used to assist in the marketing of other companies and products. Areas to be addressed are the uniqueness of sport marketing in comparison with traditional marketing, an overview of the segments of the sport industry, the importance of market research and segmentation in identifying the right sport consumer, the issue of data-based marketing in researching the sport consumer, an overview of the marketing mix as individual units and the relationship between those units, and the development of sponsorship and endorsement packages. Prerequisite: MKT 301.

SFM 471 - SPORT FINANCE

Semester Hours: 3

This course examines the financial tools that sports managers use to run their sport businesses. As such, it explores traditional and innovative methods of revenue acquisition and financial management in sports organizations, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Various other aspects of finance are discussed as they relate to sports organizations, including the time value of money, capital structuring, stocks and bonds, inventory management, and taxation. Prerequisite: FIN 301.

SFM 472 - ETHICS IN SPORT

Semester Hours: 3

This course prepares students to take a more critical view of sport, as well as reflect on their own personal ethical and competitive orientations. A central focus of the course is to view sport and competition from social justice and diversity perspectives. More specifically, sport is discussed from a socio-cultural context regarding how dominant and non-dominant groups (racial, ethnic, or socio-economic) have used sport to preserve or change their societal status. This includes such areas as racial identity and equity, gender identity and equity, cultural and ethnic stereotyping, sexual orientation, hazing and bullying, religion and sport, and individuals with disabilities. This course will also look at how to become an agent for change by using social capital to promote ethical equity and diversity. Prerequisite: KIN 265 or SFM 265.

SFM 473 - PROJECT MANAGEMENT

Semester Hours: 3

This course provides an introduction to project management using a guidelines approach to project sustainability and working-in-teams. The guidelines approach involves investigations of topics like project cycles; resources; deliverables; estimating costs; mitigating risk; revealing variances to costs/profits; and project scope. This class is the practice of turning ideas into reality. Junior Standing required.

SFM 491 - SPORT & FITNESS MGT INTERNSHIP

Semester Hours: 6

Sport & Fitness Management Internship will introduce and promote professionalism through a hands-on experience with a local company. The student will be guided by a faculty member and company representative to achieve a strong overall work experience pertaining to the student's interests. Prerequisite: SFM 265 or KIN 265 and senior standing.

Statistics (ST)

ST 281 - ELEMENTS OF STAT ANALYSIS

Semester Hours: 3

Descriptive statistics, fundamentals of probability theory, fundamentals of statistical inference, including estimation and hypothesis testing, and use of typical statistical package such as MINITAB. Prerequisites: MA 113 or MA 115 or Level 2 Placement.

ST 287 - APPLIED STATISTICS I

Semester Hours: 3

ST 487 - INTRO TO MATH STATISTICS

Semester Hours: 3

Brief review of basic probability theory, sampling distributions, estimations, hypothesis testing, experimental design, correlation and regression, analysis of variance, and nonparametric statistics. Prerequisites: MA 201 and either MA 385 or ISE 390.

Theatre (TH)

TH 100 - STAGECRAFT

Semester Hours: 3

This course will provide students with the basic knowledge of stage construction, its practices, and implementation. Additional hands-on experience will be gained by working outside of class hours in the scene shop assisting in the construction and installation of main-stage productions.

TH 101 - THEATRE PRACTICUM

Semester Hour: 1

TH 110 - VOICE AND DICTION

Semester Hours: 3

Examines and practices methods of adjusting vocal articulation, tone, pitch, pace, volume, resonance, and pronunciation for improving or changing voice quality and accents. Understanding the vocal instrument prepares students for acting and for positive self-presentation in the real world.

TH 115 - INTRO STAGE MOVEMENT

Semester Hours: 3

This course explores the movement skills necessary for the actor with emphasis on physical training and practical application in realistic and abstract performance efforts.

TH 122 - THEATRE APPRECIATION

Semester Hours: 3

Introductory survey of theater art focusing on understanding performance components and genres. Satisfies fine arts elective. Offered every term.

TH 123 - INTRO TO FILM STUDIES

Semester Hours: 3

Students develop a critical understanding of how the 'language' of film uses image and sound to produce meaning and pleasure, and to elicit audience response in order to generate what constitutes meaning. Concentrating on film form and style, the course teaches students to engage cinema in relation to narrative, mise-en-scene, cinematography, editing, sound, and genre.

TH 150 - SCRIPT ANALYSIS

Semester Hours: 3

This course is a hands-on look into script analysis, using plays from the western theatre canon, some of which will be produced by UAH Theatre during the school year. There will be individual and group work in script analysis, culminating in a full script analysis project at the end of the semester.

TH 155 - SURVEY MUSICAL THEATRE

Semester Hours: 3

This class will enrich the student's experience of and knowledge about musical theatre. By understanding musicals as products of specific cultural values and historical contexts, the student will become more sensitive to their meanings and how to interpret and perform them.

TH 180 - READER'S THEATRE

Semester Hours: 3

This course is designed to explore play text within the theatre. Students will work first hand with plays and present staged readings. This course is open to all majors.

TH 200 - PLAYWRITING

Semester Hours: 3

Students will create original short, theatrical works as they examine and experiment with multiple narrative techniques. Students will work independently and collaboratively to experience the full process of drafting, hearing the words aloud, and revising original works. Works will be read aloud; student and faculty feedback will be given.

TH 201 - THEATRE PRACTICUM

Semester Hour: 1

UAH Theatre offers students a number of opportunities to work on and crew productions. Practicum allows students to earn required class credit while engaged in these activities.

TH 210 - WRITING FOR VISUAL MEDIA

Semester Hours: 3

This course offers an introduction to scriptwriting for a variety of media: commercials, PSAs, fiction films, documentaries, and the web. The art of "visual writing" is emphasized. Students produce scripts on their own while contributing to and critiquing the work of their fellow classmates. Prerequisites: EH 101, EH 102.

TH 221 - ACTING

Semester Hours: 3

This course explores the foundations of acting through an understanding of basic techniques including scene study, script analysis, improvisation, and physical and vocal work. Offered every semester.

TH 225 - ELEMENTS OF THEATRE PRODUCTION

Semester Hours: 3

This course is designed to give students the opportunity to explore the design components of theatre including scenery, costumes, lighting and sound through class projects and practical application. Offered every Spring. Prerequisite: TH 122 or permission of instructor.

TH 250 - STAGE MAKEUP

Semester Hours: 3

Course will cover basic stage makeup application techniques for both the actor and the makeup artist. Course will also explore 3D makeup techniques and character analysis for makeup design. Theatre Majors only, or permission of instructor.

TH 251 - COSTUME FUNDAMENTALS

Semester Hours: 3

The purpose of this course is to learn how to function in the costume shop. Students will learn basic hand and machine sewing skills for constructing and completing a costume. Students will also gain an understanding of basic pattern making skills and how costumes are created for Theatre. Prerequisite: TH 225.

TH 260 - VIDEO PRODUCTION

Semester Hours: 3

This course provides students with an opportunity to experience the process of video production through creative projects designed to stimulate the visual artist, summon the storyteller and create the video editor.

TH 275 - DOCUMENTARY FILM

Semester Hours: 3

Through readings, screenings, discussion, and practice, students will become acquainted with various approaches to documentary film and video in theory and practice. Focus will be on the ethical, rhetorical, and creative choices that form conventions and modes documentary filmmakers have developed in their practice and critics have used to describe and analyze how documentaries communicate. Students will experiment with some of these choices by working on their own short documentary projects.

TH 301 - THEATRE PRACTICUM

Semester Hour: 1

UAH Theatre offers students a number of opportunities to work on and crew productions. Practicum allows students to earn required class credit while engaged in these activities.

TH 321 - ACTING II

Semester Hours: 3

Acting II is a Stanislavsky-based class which will further the growth of skills learned in Acting I, as it applies to more complex characterization. Class work will include sensory exercises, relaxation, concentration, imagination, improvisation, character analysis, and scene work. Prerequisite: TH 221.

TH 322 - THEATRE HISTORY I

Semester Hours: 3

Explores the development of theater art from its origins to French neoclassicism and Moliere with particular emphasis on the Greeks, Shakespeare, and his contemporaries. Offered every two years.

TH 323 - THEATRE HISTORY II

Semester Hours: 3

Explores the development of theatre art from the 17th to the 20th century, with particular emphasis on the English Restoration, early Realism and the American masters. Offered every two years.

TH 324 - MODERN AMERICAN THEATRE

Semester Hours: 3

This course is a seminar-style study of current American theatre and plays written in the 21st century. To that end, we will read and write about 8 current American plays, and other articles from theatre journals. At the end of the class, students will understand and be able to explicate in writing, spoken presentation, and/or through creative activity, the present, and possible future impacts of current American theatre on American society.

TH 325 - COMIC BOOK THEATRE

Semester Hours: 3

"Boom! Kapow! Bravo! The Comic Book and Contemporary Theatre" takes a deep dive into current theatre performance and how playwrights are transforming comic books and other popular genre art into theatre that engages and surprises audiences.

TH 330 - STAGE MANAGEMENT

Semester Hours: 3

This course concerns the role of the Stage Manager in theatrical productions. It focuses on the stage manager's duties, responsibilities, and procedures from pre-production to post-production. It explores the functions of various members of the production team and how the stage manager's interaction with each member of this team varies. It considers the role of the stage manager as the hub of communication for a production. Prerequisites: TH 122 and TH 225.

TH 334 - HISTORY OF AMERICAN CINEMA

Semester Hours: 3

Investigates the American cinema as a cultural artifact by studying cultural and historical context of representations, audiences, aesthetics and industry practices in American cinema from its beginning (1895) to present.

TH 340 - SPECIAL TOPICS IN THEATRE

Semester Hours: 3

Topics announced in advance. Representative topics include playwriting, directing, and ancient Greek theatre. May be repeated twice for credit.

TH 355 - SCENE DESIGN

Semester Hours: 3

This class introduces students to the many facets, both artistic and engineering-based, of scene design for the theatre including: history, research, design, stage, direction, technical direction, scenic art and props. Prerequisites: TH 100 and TH 225.

TH 360 - VIDEO PRODUCTION II

Semester Hours: 3

Advanced Video Production is an intensive video production course designed to integrate film theory and practice. Students will learn the technical and artistic necessities of the film and video medium. Through immersive lectures, workshops, projects, and exercises, students will gain valuable experience and know-how in this exciting, fast-paced, communication medium. Prerequisite: TH 260.

TH 365 - COSTUME DESIGN

Semester Hours: 3

The purpose of this course is to learn the intricacies of costume design and how it fits in the full vision of a Theatrical Production. The importance of the artist's vision and the practical use must all be addressed when designing a show. Each student will learn to develop their own style and voice as an artist and how to work in the theatre. Prerequisite: TH 225.

TH 375 - SOUND DESIGN

Semester Hours: 3

This course offers an exploration of the sound design process for the theatre. Script analysis and creating a design concept will underline the structure of the course. The students will have the opportunity to use a DAW (digital audio workstation) and various computer software programs including QLab. The course includes an overview of digital audio data structures, "plug-ins", processing, equalization and standard solutions for interfacing external devices with a computer. The students will participate in two productions and gain valuable hands-on experience. There will be an emphasis on the creative possibilities of sound design for the theatre and multimedia. Prerequisites: TH 225.

TH 390 - TEACHING THEATRE

Semester Hours: 3

This course is designed to help students develop the skills required to coach and direct student actors, focusing on best practices in teaching the fundamentals of directing, including various assessment rubrics and adapting activities to different age groups. The course emphasizes learning by doing. Prerequisite: TH 221.

TH 400 - INTERNSHIP IN THEATRE

Semester Hours: 0.5-3

Practical experience in the workplace allows the student to apply principles, theories, and skills learned in Theatre Program courses. Arranged by the student with consent of the director of the Theatre Program, the student meets regularly with a faculty advisor, keeps a log of activities, and submits a report on the internship. Prerequisite: Senior Standing with TH major, and permission of instructor.

TH 401 - INTERNSHIP IN VIDEO

Semester Hours: 3

Students receive practical, production experience in the engagement of a creative project where they are able to apply principles, theories, and production skills learned from previous video courses and/or other course work.

TH 421 - ACTING III

Semester Hours: 3

This class explores non-realist acting techniques, as a way to expand understanding of different performance and period styles. Students will work in historical periods from the Italian and Elizabethan renaissances and more contemporary styles. Prerequisite: TH 321.

TH 425 - THEATRE MAINSTAGE

Semester Hours: 1-3

This course provides students with an opportunity to experience the complete process of theatre including such elements as: direction, acting, design, tech and management. The class will produce two full length plays. Students will be auditioned to determine roles in each production. Some will serve critical production roles such as design, direction, and management while others will act in one or both productions. In certain instances, a student actor may appear in both plays. Offered every semester. Can be taken two semesters for maximum credit of 6 hours.

TH 431 - SENIOR CAPSTONE THEATRE

Semester Hours: 3

Senior capstone course involving either a scholarly project or an approved communication-intensive internship combined with a comprehensive examination. Prerequisites: senior standing with TH major, and approval of instructor.

TH 465 - DIRECTING

Semester Hours: 3

In this course, students will develop their skills in theatrical directing and production using script analysis, visual composition, design, and communication. Students will complete hands-on directing scene projects, supplemented with written analysis, dramaturgical research, and design images. Prerequisites: TH 150, and TH 322 or TH 323.

TH 475 - PORTFOLIO

Semester Hours: 3

This course explores the current state of the entertainment industry's job market. Students from design, performance, video production, and dramaturgy build and refine the materials they will need to be employed within the entertainment industry. Prerequisites: TH 421, or TH 390, or TH 355, or TH 322 & TH 323.

TH 480 - DRAMATURGY

Semester Hours: 3

Study of the fundamental skills and practical collaborative processes needed to dramaturg a work of theater. Prerequisites: TH 150 and either TH 322 or TH 323.

Women's, Gender, and Sexuality Studies (WGS)

WGS 200 - INTRO WOMENS/GENDER/SEXLTY STU

Semester Hours: 3

Focusing on gender and sexuality as fundamental categories of meaning, the course will introduce methods and approaches to Women's, Gender, and Sexuality Studies in a variety of disciplines. It will examine the pervasive and often unacknowledged ways that gender and sexuality change our social institutions, individual knowledge, and interpersonal relationships. The course includes guest lectures by many of our faculty teaching courses in the Women's Gender, and Sexuality Studies minor.

WGS 340 - SPECIAL TOPICS

Semester Hours: 1-3

Pre-announced special areas addressed in seminar format, laboratory work, or practicum. May be taken twice for credit. Prerequisite: WGS 200.

WGS 499 - INDEPENDENT STUDY

Semester Hours: 1-3

Prerequisite: WGS 200.

World Languages and Cultures (WLC)

WLC 101A - INTRO FOREIGN LANG I: ARABIC

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101F - INTRO FOREIGN LANG I:FRENCH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101G - INTRO FOREIGN LANG I:GERMAN

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101J - INTRO FOREIGN LANG I:JAPANESE

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101MS - INTRO TO MEDICAL SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts with special emphasis on medical terminology and tasks. Conducted in the target language. No prerequisites.

WLC 101R - INTRO FOREIGN LANG I:RUSSIAN

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 101S - INTRO FOREIGN LANG I: SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading and writing within cultural contexts. Conducted in the target language. No prerequisites.

WLC 102A - INTRO FOREIGN LANG II: ARABIC

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101A or placement by exam.

WLC 102F - INTRO FOREIGN LANG II:FRENCH

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101F or placement by exam.

WLC 102G - INTRO FOREIGN LANG II:GERMAN

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101G or placement by exam.

WLC 102J - INTRO FOREIGN LANG II:JAPANESE

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101J or placement by exam.

WLC 102MS - INTRO TO MEDICAL SPANISH II

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts with special emphasis on medical terminology and tasks. Conducted in the target language. Prerequisites: WLC 101MS.

WLC 102R - INTRO FOREIGN LANG II:RUSSIAN

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101R or placement by exam.

WLC 102S - INTRO FOREIGN LANG II:SPANISH

Semester Hours: 3

Teaches beginning listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 101S or placement by exam.

WLC 199A - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in world languages, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199F - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199G - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199J - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in world languages, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199R - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 199S - SPECIAL TOPICS

Semester Hours: 3

Study of special topics in foreign language, literature, or culture on campus or abroad. Prerequisites: Placement by exam.

WLC 201A - INTERM FOREIGN LANG I: ARABIC

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102A or placement by exam.

WLC 201F - INTERM FOREIGN LANG:FRENCH

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102F or placement by exam.

WLC 201G - INTERM FOREIGN LANG:GERMAN

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102G or placement by exam.

WLC 201J - INTERM FOREIGN LANG: JAPANESE

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102J or placement by exam.

WLC 201R - INTERM FOREIGN LANG:RUSSIAN

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102R or placement by exam.

WLC 201S - INTERM FOREIGN LANG:SPANISH

Semester Hours: 3

Teaches intermediate listening, speaking, reading, and writing within cultural contexts. Conducted in the target language. Prerequisite: WLC 102S or placement by exam.

WLC 202A - INTERM FOREIGN LANG II: ARABIC

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201A or placement by exam.

WLC 202F - INTERM FOREIGN LANG II:FRENCH

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201F or placement by exam.

WLC 202G - INTERM FOREIGN LANG II:GERMAN

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201G or placement by exam.

WLC 202J - INTERM FORGN LANG II:JAPANESE

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201J or placement by exam.

WLC 202R - INTERM FOREIGN LANG II:RUSSIAN

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201R or placement by exam.

WLC 202S - INTERM FOREIGN LANG II:SPANISH

Semester Hours: 3

Teaches listening, speaking, reading and writing within cultural contexts. Conducted in the target language. Prerequisites: WLC 201S or placement by exam.

WLC 204 - INTERNATIONAL CINEMA

Semester Hours: 3

Analyzes foreign language films centered on changing themes, such as family, religion, children, society, and the arts. Conducted in English. No prerequisite.

WLC 301A - CONVERSATION: ARABIC

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202A or placement by instructor.

WLC 301F - CONVERSATION:FRENCH

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202F or placement by exam.

WLC 301G - CONVERSATION:GERMAN

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202G or placement by exam.

WLC 301J - CONVERSATION:JAPANESE

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202J or placement by exam.

WLC 301R - CONVERSATION:RUSSIAN

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202R or placement by exam.

WLC 301S - CONVERSATION:SPANISH

Semester Hours: 3

Teaches conversational communication through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202S or placement by exam.

WLC 302F - COMPOSITION:FRENCH

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202F or placement by exam.

WLC 302G - COMPOSITION:GERMAN

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202G or placement by exam.

WLC 302R - COMPOSITION:RUSSIAN

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202R or placement by exam.

WLC 302S - COMPOSITION:SPANISH

Semester Hours: 3

Teaches writing skills through cultural texts and media. Conducted in the target language. Prerequisite: WLC 202S or placement by exam.

WLC 303F - FOREIGN LANG LIFE & PROF:FRENC

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202F or by placement.

WLC 303G - FOREIGN LANG LIFE & PROF:GERMA

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202G or by placement.

WLC 303R - FOREIGN LANG LIFE & PROF:RUSSI

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202R or by placement.

WLC 303S - FOREIGN LANG LIFE & PROF:SPANI

Semester Hours: 3

Teaches foreign language skills for careers in business, technology, politics, etc. Conducted in the target language. Prerequisite: WLC 202S or by placement.

WLC 304F - CULTURE:FRENCH

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301F or WLC 302F.

WLC 304G - CULTURE:GERMAN

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301G or WLC 302G.

WLC 304R - CULTURE:RUSSIAN

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301R or WLC 302R.

WLC 304S - CULTURE:SPANISH

Semester Hours: 3

Teaches the arts, histories, social customs, and values of the target culture. Conducted in the target language. Prerequisites: WLC 301S or WLC 302S.

WLC 305F - INTRO TO LITERATURE:FRENCH

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301F or WLC 302F.

WLC 305G - INTRO TO LITERATURE:GERMAN

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301G or WLC 302G.

WLC 305R - INTRO TO LITERATURE:RUSSIAN

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301R or WLC 302R.

WLC 305S - INTRO TO LITERATURE:SPANISH

Semester Hours: 3

Introduces the literature of the target language in cultural contexts. Conducted in the target language. Prerequisite: WLC 301S or WLC 302S.

WLC 404F - TEXTS & CONTEXTS:SEM LIT:FRENC

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301F or WLC 302F.

WLC 404G - TEXTS & CONTEXTS:SEM LIT/GERMA

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301G or WLC 302G.

WLC 404R - TEXTS & CONTEXTS:SEM LIT:RUSSI

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301R or WLC 302R.

WLC 404S - TEXTS & CONTEXTS:SEM LIT:SPANI

Semester Hours: 3

In-depth study of authors, genres, or movements in cultural contexts. Conducted in the target language. May be repeated when taught with a different topic. Prerequisite: WLC 301S or WLC 302S.

WLC 409 - SR SEM: COMPARATIVE LANG & CUL

Semester Hours: 3

The senior seminar will explore a special topic relevant to all world languages and cultures; examples include but are not limited to education, family, fine arts, music, food, and politics. Students will compare their own language and culture to other languages and cultures, develop connections to other languages and disciplines, and cultivate an understanding of and appreciation for world cultures and communities with the aim of understanding that there are multiple ways of viewing the world. This is the capstone course for majors who opt out of completing an international internship (WLC 410). Prerequisites: Two 300-level WLC courses and senior standing.

WLC 410 - INT'L INTERN:COMP LANG/CULT
Semester Hours: 3-6

Capstone for majors, offering practical experience in commercial or public organizations domestically or abroad. Conducted in English. Prerequisite: WLC 303.

WLC 499F - INDEPENDENT STUDY:FRENCH
Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202F.

WLC 499G - INDEPENDENT STUDY:GERMAN
Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202G.

WLC 499R - INDEPENDENT STUDY:RUSSIAN
Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202R.

WLC 499S - INDEPENDENT STUDY:SPANISH
Semester Hours: 3

Independent study and/or study abroad. Prerequisite: WLC 202S.

Faculty

Faculty

(Date refers to original appointment to the university.)

A

Adan, Drew, Librarian II, Library, 2017, MLIS, Simmons Graduate School of Library and Information Science.

Adcock, Lawana, Lecturer, Biological Sciences, 2016, PhD, Alabama AM University.

Adurthi, Nagavenkat, Assistant Professor, Mechanical and Aerospace Engineering, 2019, PhD, University at Buffalo.

Ai, Shangbing, Professor, Math, 2002, PhD, University of Pittsburgh.

Al-Hamdan, Ashraf, Clinical Associate Professor, Civil and Environmental Engineering, 2007, PhD, University of Illinois at Chicago.

Aldukali, Fathi, Lecturer, Electrical and Computer Engineering, 2021, PhD, University of Alabama in Huntsville.

Alewine, Henry, Associate Professor, Accounting, 2010, PhD, University of Kentucky.

Alexander, Susan, Professor, Nursing, 2009, DNP, University of Alabama in Huntsville.

Allen, David, Professor, Economics, 1994, PhD, University of Arkansas.

Allen, Mary Beth, Senior Lecturer, Computer Science, 2017, MS, Auburn University.

Allport, Christopher, Associate Professor, Accounting, 2005, PhD, Virginia Polytechnic Institute and State University.

Amiri, Azita, Associate Professor, Nursing, 2012, PhD, University of Alabama at Birmingham.

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B

Bail, Jennifer, Assistant Professor, Nursing, 2020, PhD, University of Alabama at Birmingham.

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Baker, Karen, Lecturer, Theatre, 2018, MFA, University of Alabama.

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Barnes, Dilcu, Clinical Assistant Professor, Management, 2017, PhD, Auburn University.

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Baun, Dylan, Associate Professor, History, 2016, PhD, University of Arizona.

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Beck, Amy, Clinical Assistant Professor, Nursing, 2018, DNP, University of Alabama in Huntsville.

Beck, Monica, Assistant Professor, Nursing, 2009, MSN, University of Alabama in Huntsville.

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Bianchi, Ann, Associate Professor, Nursing, 2007, PhD, Texas Woman's University.

Biswas, Keka, Clinical Instructor, Biological Sciences, 2022, PhD, University of New Mexico.

Bitzer, Phillip, Associate Professor, Atmospheric Science, 2011, PhD, University of Alabama in Huntsville.

Blackmon, James, Research Professor, Mechanical and Aerospace Engineering, 2001, PhD, University of California.

Bonamente, Massimiliano, Professor, Physics, 2002, PhD, University of Alabama in Huntsville.

Booth, Joshua, Assistant Professor, Computer Science, 2020, PhD, The Pennsylvania State University.

Boswell, Beth, Lecturer, English, 2019, PhD, Middle Tennessee State University.

Bowman, Ronald, Senior Lecturer, Electrical and Computer Engineering, 2005, MSEE, Clemson University.

Boykin, Timothy, Professor, Electrical and Computer Engineering, 1992, PhD, Stanford University.

Brizendine, Bramwell, Assistant Professor, Computer Science, 2022, PhD, Dakota State University.

Brothers, Rebecca, Librarian I, Library, 2017, MA, University of Washington.

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Bruzek, Jennifer, Assistant Professor, Education, 2019, PhD, University of Kansas.

Budisalich, Kimberly, Clinical Assistant Professor, Nursing, 2017, MSN, Samford University.

Buksa, Irena, Associate Professor, World Languages and Cultures, 1990, DA, Syracuse University.

Burel, Joshua, Assistant Professor, Music, 2017, DM, Florida State University.

Burns, Laird, Associate Professor, Management, 2009, PhD, Michigan State University.

Burrows, Janice, Lecturer, Math, 2018, MS, Texas AM University.

C

- Can, Ege**, Clinical Assistant Professor, Economics, 2022, PhD, University of Nevada, Reno.
- Carey, Lawrence**, Professor, Atmospheric Science, 2012, PhD, Colorado State University.
- Carey, Matthew**, Assistant Professor, Music, 2016, DMA, Texas Tech University.
- Carlisle, Rachel**, Lecturer, Art, Art History Design, 2022, MA, Courtauld Institute of Art.
- Cassibry, Jason**, Professor, Mechanical and Aerospace Engineering, 2004, PhD, University of Alabama in Huntsville.
- Chakrabarti, Sukanya**, Professor and Pei-Ling Chan Endowed Chair, Physics, 2022, PhD, University of California, Berkeley.
- Chamness, Joseph**, Clinical Assistant Professor, Nursing, 2021, MSN, University of Alabama at Birmingham.
- Che, Haihong**, Assistant Professor, Space Science, 2019, PhD, University of Maryland, College Park.
- Choup, Anne Marie**, Associate Professor, Political Science, 2007, PhD, University of North Carolina at Chapel Hill.
- Christopher, Sundar**, Professor, Atmospheric Science, 1997, PhD, Colorado State.
- Christy, John**, Interim Vice President of Research and Economic Development, Director of ESSC, and Distinguished Professor, Atmospheric Science, 1991, PhD, University of Illinois.
- Chronis, Themistoklis**, Clinical Assistant Professor and Honors Faculty Fellow, Physics, 2017, PhD, University of Connecticut.
- Chung, Haeyong**, Associate Professor, Computer Science, 2015, PhD, Virginia Polytechnic Institute and State University.
- Clark, Stanley**, Clinical Professor, Accounting, 2022, PhD, University of Kentucky.
- Clemmons, Tammy**, Clinical Instructor, Nursing, 2006, MSN, University of Alabama in Huntsville.
- Cling, Andrew**, Professor, Philosophy, 1988, PhD, Vanderbilt.
- Coe, David**, Associate Professor, Electrical and Computer Engineering, 2002, PhD, Georgia Institute of Technology.
- Coley, Lorenzo**, Lecturer, Mechanical and Aerospace Engineering, 2018, MS, Mississippi State University.
- Comert, Gurcan**, Assistant Professor, Industrial Systems Engineering, 2022, PhD, University of South Carolina.
- Connors, Ryan T.**, Associate Professor, Kinesiology, 2015, PhD, Middle Tennessee State University.
- Conway, Joseph**, Associate Professor, English, 2011, PhD, Washington University in St. Louis.
- Cooper, Judy**, Senior Lecturer, Biological Sciences, 2015, MS, University of Alabama in Huntsville.
- Craw, Michael**, Assistant Professor, Kinesiology, 2019, PhD, University of Tasmania.
- Crook, Genevieve**, Lecturer, Math, 1989, MA, University of Alabama in Huntsville.
- Cross, Heather**, Senior Lecturer, English, 2007, MA, University of Alabama in Huntsville.
- Cruz-Vera, Luis**, Associate Professor, Biological Sciences, 2007, PhD, CINVESTAV-IPN, Mexico.
- Culumber, Zachary**, Assistant Professor, Biological Sciences, 2018, PhD, Texas AM University.

D

- Darnell, Amy**, Clinical Instructor, Nursing, 2020, MSN, Auburn University.
- Davis, Rebecca**, Clinical Assistant Professor, Nursing, 2009, MSN, University of Alabama in Huntsville.
- D'Costa, Anthony**, Eminent Scholar and Professor, Economics, 2018, PhD, University of Pittsburgh.
- Deverapalli, Chakri**, Director IT, Lecturer, Information Systems, 2008, MBA, University of Alabama in Huntsville.
- Diagana, Toka**, Chair and Professor, Math, 2018, PhD, University of Claude Bernard - Lyon 1, France.
- Dillihunt, Monica**, Associate Professor, Education, 2004, PhD, Howard University.

Doty, Johnna, Senior Lecturer, Music, 2012, MFA, Boston University.

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Duan, Lingze, Professor, Physics, 2007, PhD, University of Maryland.

Dyess, Sarah, Associate Professor, Education, 2016, PhD, Michigan State.

E

Elgindi, Ali, Clinical Assistant Professor, Math, 2022, PhD, University of Chicago.

Elliott, Jeremy M., Faculty Athletic Representative, Department Chair, and Associate Professor, Kinesiology, 2015, PhD, University of Georgia.

Elmore, Elizabeth, Clinical Assistant Professor, Nursing, 2019, DNP, University of Alabama in Huntsville.

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English, Jennifer, Associate Dean and Associate Professor, Electrical and Computer Engineering, 2000, PhD, Georgia Institute of Technology.

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F

Fahimi, Farbod, Associate Professor, Mechanical and Aerospace Engineering, 2010, PhD, Sharif U Tech, Tehran.

Fan, Xiaoti, Assistant Professor, Communication Arts, 2022, PhD, The University of Alabama.

Fikes, David, Lecturer, Mechanical and Aerospace Engineering, 2016, MS, University of Tennessee - Knoxville.

Florinski, Vladimir, Professor, Space Science, 2008, PhD, University of Arizona.

Fong, Eric, Professor, Management, 2004, PhD, University of Florida.

Foster, Melissa, Clinical Assistant Professor, Nursing, 2012, DNP, University of Alabama in Huntsville.

Frederick, Robert, Professor, Mechanical and Aerospace Engineering, 1991, PhD, Purdue.

Frendi, Kader, Professor, Mechanical and Aerospace Engineering, 1999, PhD, Brown University.

Friedman, Susan, Senior Lecturer and Honors Faculty Fellow, English, 2008, PhD, University of South Florida.

Frith, Karen, Dean and Professor, Nursing, 2007, PhD, Georgia State University.

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G

Gaede, Rhonda, Interim Associate Provost and Associate Professor, Electrical and Computer Engineering, 1992, PhD, University of Texas-Austin.

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Greene, Jason, Dean and Professor, Finance, 2016, PhD, Indiana University.

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Griffin, Robert, Associate Professor and Associate Dean, Atmospheric Science, 2012, PhD, Penn State University.

Grimsley, Reagan, Librarian III, Library, 2017, MA, University of Southern Mississippi.

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Guerra, Donna, Clinical Assistant Professor, Nursing, 2015, EdD, University of Alabama in Huntsville.

Gunn, Sinceree, Senior Lecturer, English, 2003, MA, University of Alabama in Huntsville.

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Gyasi, Kwaku, Associate Professor, World Languages and Cultures, 1999, PhD, Ohio State University.

H

Hakkila, Jon, Associate Provost for International Services and Academic Integrity, Dean of the Graduate School, and Professor, Physics, 2021, PhD, New Mexico State University.

Hamilton, Frances, Assistant Professor, Education, 2014, PhD, Tennessee State University.

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Hannah, Linda, Lecturer, Psychology, 2019, MS, University of Central Texas, Killeen.

Hardin, Elizabeth, Lecturer, English, 2020, MA, University of Alabama in Huntsville.

Harfouch, John, Associate Professor, Philosophy, 2014, PhD, Penn State University.

Hart, Nichole, Lecturer, Art, Art History Design, 2021, MFA, Savannah College of Art and Design.

Harwell, David, Professor, Theatre, 2005, MFA, University of Illinois.

Hasanov, Seymur, Clinical Assistant Professor, Professional and Continuing Studies, 2021, MS, Qafqaz University.

Hauenstein, Jacob, Assistant Professor, Computer Science, 2019, PhD, University of Alabama in Huntsville.

Hazelwood, Rebecca, Lecturer, English, 2018, PhD, University of Louisiana at LaFayette.

Heikes, Deborah, Professor, Philosophy, 1998, PhD, University of Illinois.

Henrie, Alisa, Clinical Assistant Professor, Professional and Continuing Studies, 2019, PhD, Brigham Young University.

Hession, Benjamin, Lecturer, Chemistry, 2022, MS, The University of Alabama in Huntsville.

Hile, Kimberly, Assistant Professor, Education, 2017, PhD, University of Illinois.

Hite, Dennis, Senior Lecturer, Electrical and Computer Engineering, 2005, MSE, University of Alabama in Huntsville.

Ho, Fat, Professor, Electrical and Computer Engineering, 1980, PhD, Southern Illinois University.

Hollingsworth, Angela, Clinical Assistant Professor, Nursing, 2016, DNP, University of South Alabama.

Hollingsworth, Donald (Keith), Professor, Mechanical and Aerospace Engineering, 2011, PhD, Stanford University.

Hovermale, D.J., Clinical Assistant Professor, Information Systems, 2022, PhD, Ohio State University.

Hoy, Haley, Professor, Nursing, 2006, PhD, Vanderbilt University.

Hsu, Liwu, Associate Professor, Marketing, 2012, PhD, Boston University.

Hu, Leiqiu, Assistant Professor, Atmospheric Science, 2017, PhD, University of Kansas, Lawrence.

Hu, Qiang, Associate Professor, Space Science, 2012, PhD, Dartmouth.

Hubbell, Gaines, Assistant Professor, English, 2015, PhD, Rensselaer Polytechnic Institute.

Hunter, Noelle, Lecturer, Political Science, 2019, PhD, West Virginia University.

I

Islam, Sheikh Ariful, Assistant Professor, Electrical and Computer Engineering, 2022, PhD, University of South Florida.

J

Jackson, Tobin, Lecturer, Math, 2018, PhD, University of Alabama in Huntsville.

Johnson, David, Associate Professor, History, 2005, PhD, Washington University in St. Louis.

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Johnson, Kathryn, Professor, Art, Art History Design, 2003, MFA, University of Georgia.

Johnson, Lisa, Lecturer, Education, 2021, PhD, Arcadia University.

Johnson, Molly, Associate Professor, History, 2003, PhD, University of Illinois.

Johnson, Terri, Senior Lecturer, Math, 2011, PhD, University of Alabama in Huntsville.

Joiner, Laurie, Interim Chair and Associate Professor, Electrical and Computer Engineering, 1998, PhD, Clemson University.

Jones, Cynthia, Lecturer, Math, 2020, MS, University of Alabama in Huntsville.

Jones, Keith, Associate Professor, Art, Art History Design, 1996, MFA, Louisiana Tech University.

Jones, Nicholas, Professor, Philosophy, 2007, PhD, Ohio State University.

Jovanov, Emil, Associate Professor, Electrical and Computer Engineering, 1998, PhD, University of Belgrade.

Joyce, Lillian, Associate Professor, Art, Art History Design, 1997, PhD, University of California, Los Angeles.

K

Kaiura, Leslie, Department Chair and Associate Professor, World Languages and Cultures, 2007, PhD, University of Virginia.

Kang, Chang-kwon, Associate Professor, Mechanical and Aerospace Engineering, 2013, PhD, University of Michigan.

Kanistras, Konstantinos, Assistant Professor, Mechanical and Aerospace Engineering, 2017, PhD, University of Denver.

Kannan, Hanumanthrao, Assistant Professor, Industrial Systems Engineering, 2022, PhD, Iowa State University.

Kansakar, Siroj, Lecturer, Math, 2012, PhD, University of Alabama in Huntsville.

Kea-Edwards, Amber, Lecturer, Management, 2021, PhD, Claremont Graduate University.

King, Andrea, Clinical Assistant Professor, Nursing, 2022, DNP, The University of Tennessee Health Science Center.

Knupp, Kevin, Professor, Atmospheric Science, 1991, PhD, Colorado State University.

Kraemer, Bradley, Assistant Professor, Biological Sciences, 2022, PhD, Vanderbilt University.

Krueger, Kalan, Clinical Instructor, Nursing, 2021, MSN, University of Alabama in Huntsville.

Kyle, David, Clinical Assistant Professor, Education, 2004, MA, University of North Alabama.

L

Lakin, Tracy, Clinical Assistant Professor, Nursing, 2019, DNP, The University of Alabama in Huntsville.

Lampley, Sandra, Associate Professor, Education, 2016, PhD, Middle Tennessee State.

Lane, Sean, Dean and Professor, Psychology, 2018, PhD, Kent State University.

Lanius, Candice, Assistant Professor, Communication Arts, 2016, PhD, Rensselaer Polytechnic Institute.

Lanz, Amelia, Associate Dean and Clinical Assistant Professor, Nursing, 2012, EdD, University of Alabama in Huntsville.

Lastinger, Anastasia, Clinical Assistant Professor, Education, 2022, PhD, Clemson University.

Lawan, Ahmed, Assistant Professor, Biological Sciences, 2019, PhD, University of Strathclyde Glasgow.

Le, Vinh Nguyen Du, Assistant Professor, Physics, 2022, PhD, McMaster University.

Le Roux, Jakobus, Professor, Space Science, 2008, PhD, Potchefstroom.

Lee, Shanhu, Professor, Atmospheric Science, 2015, PhD, University of Tokyo.

Lee, Yeolan, Associate Professor, Management, 2013, PhD, Ohio State University.

Lei, Yu, Associate Professor, Chemical and Materials Engineering, 2013, PhD, U of Illinois at Chicago.

Lenahan, Shelley, Senior Lecturer, Math, 2004, MA, Texas AM.

Li, Gang, Professor, Space Science, 2008, PhD, Indiana University-Bloomington.

Li, Xiaotong, Professor, Information Systems, 2001, PhD, University of Mississippi.

Lieu, Richard, Distinguished Professor, Physics, 1995, PhD, Imperial College - London.

Ligrani, Phillip, Eminent Scholar and Professor, Mechanical and Aerospace Engineering, 2014, PhD, Stanford University.

Lin, Mark, Associate Professor, Mechanical and Aerospace Engineering, 2000, PhD, Virginia Polytechnic Institute.

Lindquist, Robert, Interim Provost and Executive Vice President for Academic Affairs and Professor, Electrical and Computer Engineering, 2003, PhD, Pennsylvania State University.

Ling, Jie, Associate Professor, Chemistry, 2022, PhD, Auburn University.

Liu, Jianqing, Assistant Professor, Electrical and Computer Engineering, 2018, PhD, University of Florida.

Liu, Junjun, Assistant Professor, Accounting, 2020, PhD, Arizona State University.

Lloyd, Nicholas, Clinical Assistant Professor, Industrial Systems Engineering, 2019, PhD, University of Alabama in Huntsville.

Love-Rutledge, Sharifa, Assistant Professor, Chemistry, 2017, PhD, The University of Alabama.

M

Ma, Rui, Assistant Professor, Civil and Environmental Engineering, 2019, PhD, Rensselaer Polytechnic Institute.

MacKenzie, William (Ivey), Associate Professor, Management, 2010, PhD, University South Carolina.

Magnuson, Roy, Associate Professor, Biological Sciences, 1999, PhD, Massachusetts Institute of Technology.

Mahafza, Hamsa, Clinical Assistant Professor and Honors Faculty Fellow, Education, 2017, PhD, University of Texas at San Antonio.

Mahalingam, Brinda, Clinical Associate Professor, Economics, 2012, PhD, University of Colorado.

Mahalingam, Shankar, Dean and Distinguished Professor, Mechanical and Aerospace Engineering, 2010, PhD, Stanford University.

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Manasco, Michael, Librarian II, Library, 2012, MLIS, University of Alabama.

Marinova, Sophia, Associate Professor, Management, 2014, PhD, University of Maryland.

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Meade, Whitney, Clinical Assistant Professor, Education, 2011, PhD, Auburn University.

Mecikalski, John, Professor, Atmospheric Science, 2004, PhD, University of Wisconsin-Milwaukee.

Mendelson, Tobias, Clinical Assistant Professor, Accounting, 2017, JD, Samford University.

Menon, Vineetha, Assistant Professor, Computer Science, 2017, PhD, Mississippi State University.

Mesmer, Bryan, Director of Army Human Systems Lab and Associate Professor, Industrial Systems Engineering, 2014, PhD, University of Buffalo.

Messimer, Sherri, Associate Professor, Industrial Systems Engineering, 1989, PhD, Texas AM.

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Milenkovic, Aleksander, Professor, Electrical and Computer Engineering, 2001, PhD, University of Belgrade.

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Mohr, John, Lecturer, History, 2018, PhD, Auburn University.

Mok, Wai Yin, Department Chair and Professor, Information Systems, 2001, PhD, Brigham Young University.

Moore, David, Director and Librarian III, Library, 2002, MLS, University of Alabama.

Morgan, Andrew, Lecturer, Philosophy, 2022, PhD, University of Virginia.

Morgan, Tracie, Clinical Assistant Professor, Nursing, 2016, MSN, University of Alabama in Huntsville.

Morphew, S. Melissa, Clinical Associate Professor, Professional and Continuing Studies, 2016, PhD, University of Georgia.

Morris, Tommy, Interim Department Chair, Eminent Scholar, and Professor, Electrical and Computer Engineering, 2015, PhD, Southern Methodist.

Morrison, Katherine, Clinical Instructor, Nursing, 2017, MSN, Samford.

Mukherjee, Tathagata, Assistant Professor, Computer Science, 2018, PhD, Florida State University.

Mullins, Frank, Associate Professor, Management, 2017, PhD, Syracuse University.

N

Nachtigall, Olaf, Assistant Professor, Chemistry, 2022, PhD, Freie Universitat Berlin.

Nair, Udaysankar, Associate Professor, Atmospheric Science, 2011, PhD, Colorado State University.

Nelson, George, Associate Professor, Mechanical and Aerospace Engineering, 2012, PhD, Georgia Institute of Technology.

Neuschatz, Jeffrey, Distinguished Professor and Eminent Scholars Professor, Psychology, 2000, PhD, Binghamton University.

Newchurch, Michael, Professor, Atmospheric Science, 1994, PhD, Georgia Institute of Technology.

Newman, Timothy, Professor, Computer Science, 1994, PhD, Michigan State.

Ng, Joseph, Professor, Biological Sciences, 1998, PhD, University of California, Riverside.

Ng, Ka Man (Melody), Associate Professor, Music, 2013, DMA, University of Wisconsin.

Ng, Yeow Chye, Associate Professor, Nursing, 2013, PhD, University of Alabama at Birmingham.

Nguyen, Cuong, Lecturer, Chemistry, 2022, PhD, The University of Alabama in Huntsville.

Niemiller, Denise, Lecturer, Biological Sciences, 2017, PhD, University of Tennessee Knoxville.

Niemiller, Matthew, Associate Professor, Biological Sciences, 2017, PhD, University of Tennessee.

Niles, Lauren, Clinical Instructor, Nursing, 2021, MSN, University of Texas at El Paso.

Noletto, Colleen, Lecturer, English, 2016, PhD, Catholic University of America.

Nouri, Sahar Ansar, Lecturer, Physics, 2022, PhD, The University of Alabama in Huntsville.

O

O'Brien, Jason, Associate Professor, Education, 2008, PhD, University of South Florida.

O'Keefe, Louise, Associate Dean for Graduate Programs and Associate Professor, Nursing, 2006, PhD, University of Alabama at Birmingham.

Okoth, Elizabeth, Lecturer, Chemistry, 2022, PhD, Louisiana State University.

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O'Neal, Pamela, Professor, Nursing, 2005, PhD, Virginia Commonwealth University.

Ong, Belinda, Librarian III, Library, 2004, PhD, University of Kentucky.

Orman, Wafa, Associate Dean and Associate Professor, Economics, 2008, PhD, University of Arizona.

Osuga, Amalia, Assistant Professor, Music, 2018, DMA, University of Oregon.

P

Pacino, Nicole, Associate Professor, History, 2013, PhD, University of California, Santa Barbara.

Palmer, Jennifer, Clinical Instructor, Nursing, 2015, EdD, University of Alabama.

Pan, David, Associate Professor, Electrical and Computer Engineering, 2002, PhD, University of Southern California.

Park, Jae, Associate Professor, Information Systems, 2015, PhD, George Mason University.

Patnayakuni, Ravi, Associate Professor, Information Systems, 2004, DBA, Southern Illinois University.

Patterson, LaToya, Clinical Instructor, Nursing, 2014, MSN, University of Alabama in Huntsville.

Pekker, Mark, Professor, Math, 1987, PhD, Cornell.

Perry, Tamela, Clinical Assistant Professor, Nursing, 2021, DNP, University of Alabama at Birmingham.

Petty, Mikel, Professor, Computer Science, 2005, PhD, University of Central Florida.

Pham, Hieu, Assistant Professor, Information Systems, 2021, PhD, Iowa State University.

Pogorelov, Nickolai, Distinguished Professor, Space Science, 2008, PhD, Russian Academy of Sciences.

Poole, Jarmel, Clinical Instructor, Nursing, 2017, MSN, University of North Alabama.

Pottenger, John, Professor, Political Science, 1986, PhD, University of Maryland.

Pour, Maria, Assistant Professor, Electrical and Computer Engineering, 2015, PhD, University of Manitoba.

Preece, Robert, Associate Professor, Space Science, 2001, PhD, University of Maryland at College Park.

Preston, Kevin, Lecturer, Computer Science, 2018, MS, The University of Alabama in Huntsville.

Price, Jodi, Acting Associate Dean and Professor, Psychology, 2008, PhD, Georgia Institute of Technology.

Primeau, Marlena, Clinical Associate Professor, Nursing, 2004, DNP, University of Alabama in Huntsville.

Pushpawela, Buddhi, Clinical Assistant Professor, Physics, 2021, PhD, Queensland University of Technology.

Pyun, Chaehyun, Assistant Professor, Finance, 2022, PhD, University of Georgia.

Q

Que, Tingting, Assistant Professor, Finance, 2014, PhD, University of Iowa.

Quick, Beth, Dean and Professor, Education, 2013, Ed.D, Vanderbilt University.

R

Ragsdale, Christopher, Professor, Music, 2006, DMA, University of Miami, Florida.

Rani, Sarma, Associate Professor, Mechanical and Aerospace Engineering, 2011, PhD, University of Illinois Urbana-Champaign.

Ravindran, Sivaguru, Professor, Math, 1999, PhD, Simon Fraser University, British Columbia.

Ray, Biswajit, Associate Professor, Electrical and Computer Engineering, 2016, PhD, Purdue University.

Reno, Alyssum, Clinical Instructor, Kinesiology, 2019, MS, The University of North Alabama.

Reynolds, Charles, Clinical Instructor, Nursing, 2020, MSN, University of Alabama in Birmingham.

Robertshaw, Joseph, Lecturer, English, 2018, PhD, Bowling Green State University.

Roh, Kyung-Ho, Associate Professor, Chemical and Materials Engineering, 2016, PhD, University of Michigan.

S

Sadeghi, Seyed, Professor, Physics, 2007, PhD, University of British Columbia.

Sahoo, Avimanyu, Assistant Professor, Electrical and Computer Engineering, 2022, PhD, Missouri University of Science and Technology.

Salman, Abdullahi, Assistant Professor, Civil and Environmental Engineering, 2018, PhD, Michigan Technological University.

Sanders, Carolyn, Professor, Music, 1990, DM, Florida State University.

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Saunders, John, Lecturer, Communication Arts, 2017, PhD, The Pennsylvania State University.

Schneider, Judith, Professor, Mechanical and Aerospace Engineering, 2015, PhD, University of California-Davis.

Scholz, Carmen, Professor, Chemistry, 1998, PhD, University of Technology, Dresden Germany.

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Scroggin, Kristin, Lecturer, Communication Arts, 2020, MA, The University of Alabama.

Sears, Christine, Associate Professor, History, 2007, PhD, University of Delaware.

Seemann, Eric, Associate Professor, Psychology, 2003, PhD, Louisiana Tech University.

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Showalter, Darlene, Clinical Associate Professor, Nursing, 1998, DNP, University of Alabama in Huntsville.

Shrader, Amelia, Clinical Instructor, Nursing, 2020, MSN, University of Alabama in Huntsville.

Sims, Jennifer, Assistant Professor, Sociology, 2017, PhD, University of Wisconsin - Madison.

Skelley, Dana, Assistant Professor, Education, 2017, EdD, University of Memphis.

Slavin, Laura, Librarian III, Library, 2017, MA, Lincoln Memorial University School of Business.

Smeal, Mary Alice, Lecturer, Math, 2015, PhD, Auburn University.

Smith, Derrick, Associate Dean and Professor, Education, 2008, EdD, Texas Tech University.

Smith, Eric, Professor, English, 2006, PhD, University of Florida.

Smith, Kelly, Lecturer, History, 2018, PhD, University of Cincinnati.

Smith, Laura, Assistant Professor, Art, Art History Design, 2019, PhD, University of Georgia.

Smith, Lenora, Associate Professor, Nursing, 2013, PhD, Medical University of South Carolina.

Smith, Miranda, Clinical Assistant Professor, Nursing, 2018, MNED, University of North Alabama.

Snow, Mary, Senior Lecturer, Chemistry, 2005, MS, University of Alabama in Huntsville.

Sommerkamp, Sandy, Clinical Assistant Professor, Nursing, 2011, MSN, Jacksonville State University.

Song, Yooseob, Assistant Professor, Civil and Environmental Engineering, 2022, PhD, Louisiana State University.

Spencer, Sharon, Clinical Assistant Professor, Nursing, 2012, MSN, University of New Orleans.

Spulak, Nathan, Assistant Professor, Mechanical and Aerospace Engineering, 2022, PhD, The Ohio State University.

St. John, David, Lecturer, English, 2020, PhD, Georgia State University.

Steidl, Christina, Interim Associate Dean and Associate Professor, Sociology, 2012, PhD, Emory University.

Steinwandt, Rainer, Dean and Professor, Math, 2021, PhD, University of Karlsruhe.

Storer, Sallyann, Clinical Assistant Professor, Nursing, 2017, DNP, University of Alabama in Huntsville.

Subramanian, Anu, Professor, Chemical and Materials Engineering, 2018, PhD, Virginia Polytechnic Institute and State University.

Sullivan, Veronica, Clinical Assistant Professor, Nursing, 2017, DNP, University of Alabama in Huntsville.

Sun, Ming, Professor, Physics, 2014, PhD, Harvard.

Swain, James, Professor, Industrial Systems Engineering, 1992, PhD, Purdue.

Sysoeva, Tatyana, Assistant Professor, Biological Sciences, 2018, PhD, The Pennsylvania State University.

T

Tan, Yi, Assistant Professor, Information Systems, 2020, PhD, University of Kansas.

Tantaris, Richard, Senior Lecturer, Mechanical and Aerospace Engineering, 2017, PhD, Vanderbilt University.

Taylor, Chris, Associate Professor, Art, Art History Design, 2014, MFA, Alfred University.

Taylor, W. Joseph, Associate Professor, English, 2010, PhD, University of Texas.

Tenhundfeld, Nathan, Assistant Professor, Psychology, 2019, PhD, Colorado State University.

Thomas, Chad, Associate Professor, English, 2011, PhD, University of Michigan.

Thomas, Chad, Associate Professor, Theatre, 2011, PhD, University of Michigan.

Thomas, Dale, Eminent Scholar and Professor, Industrial Systems Engineering, 2015, PhD, University of Alabama in Huntsville.

Thomson, Robert, Assistant Professor, Sociology, 2019, PhD, Baylor University.

Thornton, Tracy, Clinical Assistant Professor, Nursing, 2013, MSN, University of Alabama in Huntsville.

Tippett, Anna Kate, Librarian I, Library, 2022, MLIS, University of South Florida.

Torres, Aurora, Assistant Professor, Psychology, 1995, PhD, University of Oklahoma.

Torres-Diaz, Isaac, Assistant Professor, Chemical and Materials Engineering, 2019, PhD, University of Puerto Rico at Mayaguez.

Truszkowska, Agnieszka, Assistant Professor, Chemical and Materials Engineering, 2022, PhD, Oregon State University.

Twigg, Pamela, Lecturer, Chemistry, 2014, PhD, Florida State University.

V

Vadrevu, Anuradha, MA, Math, 2017, MA, Mississippi State University.

Vangness, Lisa, Assistant Professor, Psychology, 2022, PhD, Kansas State University.

Vann, Jennifer, Clinical Assistant Professor, Nursing, 2022, DNP, The University of Alabama at Birmingham.

Veasey, Roxie, Senior Lecturer, Art, Art History Design, 2005, MFA, University of Georgia.

Veres, Peter, Assistant Professor, Space Science, 2022, PhD, Eötvös Loránd University.

Verlaan, Wolfram, Associate Professor, Education, 2012, PhD, Texas AM.

Vizcarra, Susanna, Lecturer, World Languages and Cultures, 2021, MA, UAH, Texas Tech University.

Vogler, Bernhard, Associate Professor, Chemistry, 2001, PhD, University of Tuebingen.

W

Waddell, Emanuel, Associate Professor, Chemistry, 2004, PhD, Louisiana State University.

Walker, Stephen, Assistant Professor, Physics, 2019, PhD, University of Cambridge.

Wallach, Karen Anne, Assistant Professor, Marketing, 2021, PhD, Emory University.

Wang, Gang, Associate Professor, Mechanical and Aerospace Engineering, 2010, PhD, University of Maryland.

Waring, Stephen, Professor, History, 1988, PhD, University of Iowa.

Watson, Joseph, Assistant Professor, Theatre, 2018, PhD, Louisiana State University.

Weber, Anna, Senior Lecturer, English, 2012, MFA, Purdue.

Weber, Ryan, Associate Professor, English, 2011, PhD, Purdue.

Weger, Kristin, Assistant Professor, Psychology, 2017, PhD, Otto-Friedrich-University.

Weimer, Jeffrey, Associate Professor, Chemistry, 1990, PhD, Massachusetts Institute of Technology.

Weimer, Jeffrey, Associate Professor, Chemical and Materials Engineering, 1990, PhD, Massachusetts Institute of Technology.

Wells, Earl, Professor, Electrical and Computer Engineering, 1992, PhD, University of Alabama.

Whitehead, Paul N., Assistant Professor, Kinesiology, 2017, PhD, University of Pittsburgh.

Wilkerson, William, Dean and Professor, Philosophy, 1997, PhD, Purdue.

Wolf, Paul, Chair and Professor, Biological Sciences, 2019, PhD, Washington State University.

Word-Allbritton, Andrea, Clinical Assistant Professor, Education, 2002, EdD, University of Alabama, Tuscaloosa.

Wu, Dongsheng, Professor, Math, 2006, PhD, Michigan State University.

Wu, Tingting, Associate Professor, Civil and Environmental Engineering, 2014, PhD, University of Florida.

X

Xing, Xuejing, Department Chair and Professor, Finance, 2007, PhD, University of Missouri-Columbia.

Xu, Gabe, Associate Professor, Mechanical and Aerospace Engineering, 2012, PhD, Georgia Tech.

Xu, Kim, Lecturer, Mechanical and Aerospace Engineering, 2021, PhD, Georgia Institute of Technology.

Y

Yoo, Seong-Moo, Associate Professor, Electrical and Computer Engineering, 2001, PhD, University of Texas.

Z

Zaharia, Noemi, Clinical Assistant Professor, Kinesiology, 2021, EdD, United States Sports Academy.

Zank, Gary, Trustee and Distinguished Professor, Space Science, 2008, PhD, University of Kwazulu Natal.

Zhang, Guangsheng, Assistant Professor, Mechanical and Aerospace Engineering, 2017, PhD, Xi'an Jiaotong University.

Zhang, Guo-Hui, Associate Professor, Math, 1993, PhD, Southern Illinois University.

Zhang, Huaming, Associate Professor, Computer Science, 2005, PhD, State University of New York at Buffalo.

Zhao, Lingling, Assistant Professor, Space Science, 2021, PhD, National Space Science Center, Chinese Academy of Sciences.

Zhao, Shuang, Assistant Professor, Political Science, 2015, PhD, Indiana University, Bloomington.

Zhu, Feng, Associate Professor, Computer Science, 2005, PhD, Michigan State University.

Zhu, Qingyun, Assistant Professor, Management, 2019, PhD, Worcester Polytechnic Institute.

Zou, Ying, Assistant Professor, Space Science, 2019, PhD, UCLA.

Financial Information

In the following section you will find information pertaining to financial aspects of attending UAH including how you will be billed, how to pay your bill, estimated cost of tuition and other fees, and information regarding financial aid options. The cost of attendance for students at The University of Alabama in Huntsville will vary by their course of study, personal needs, and place of residence. Please note that all fees, charges, and costs detailed in this catalog are subject to change without notice. Financial obligations must be satisfied by the established deadlines. For additional information or questions please contact the Bursar's Office (www.uah.edu/bursar (<http://www.uah.edu/bursar/>)).

Billing and Payment Procedure

Tuition, fees and all associated charges are to be paid in full by the first official day of the semester (click here (<http://catalog.uah.edu/general-information/academic-calendars/>) to find first official day of semester). Acceptable forms of payment are:

- Cash
- Personal Checks
- Money Orders
- Cashier's Checks
- Traveler's Checks
- Electronic Checks
- Credit Cards/Debit Cards (VISA, MasterCard, American Express, or Discover - 2.85% service fee applies)

Payments may be made online through the student account or in person at the Bursar's Office (SSB 123). Students who do not pay their bill in full or have an active payment plan by the first day of the semester are assessed a \$50.00 late fee and a transcript hold may be placed on the account. Students who have any remaining balance on the last official day of the semester will be dropped from any future semester registration and an AR hold will be placed on the account. The University assumes no responsibility for students who attend classes without official enrollment. For summer sessions, please check dates in the Academic Calendar (<http://catalog.uah.edu/general-information/academic-calendars/>) and on the UAH website (<http://www.uah.edu/registrar/calendars/>).

Mail payments to:

The University of Alabama in Huntsville
Bursar's Office
Student Services Building, Room 123
Huntsville, AL 35899-5050

Payment Plans

Payment plans are available to students each semester. UAH partners with Flywire Payment Solutions to offer student payment plans. For more information, or to set up an installment plan, click here. (<https://www.uah.edu/bursar/installment-plans/>)

Balances

Past due balances are a debt owed the State of Alabama and appropriate action will be taken to collect all balances. Holds will be placed on all student accounts that have past due balances. This hold prevents students from receiving grades and transcripts and from registering for another semester at UAH. To the extent permitted by the laws of the State of Alabama, any costs to collect a past due account, to include collection agency charges and attorney fees, will be charged back to the student who shall be liable for payment of those charges.

Other Charges

Other Charges	
Credit by examination or validation	\$10.00/semester hour
Replacement of I.D. card	\$25.00
Transcript	\$10.00
Graduation Application fee (non refundable)	\$50.00
Duplicate Diploma	\$40.00
Parking Permit	\$140.00

Summer only vehicle registration	\$50.00
College of Nursing	
Nursing Badge	\$5.00
Liability Insurance (per year)	variable
College of Nursing Pin (graduation)	\$50.00-\$150.00
Annual health examinations	variable

Refunds

Students may drop a class through the Drop/Add period and receive a 100% tuition refund. Please check the UAH website (<http://www.uah.edu/registrar/calendars/>) for each semester's dates. A student desiring to drop one or more classes may do so on the UAH online registration site or by submitting a drop request form to the Registrar's Office, SSB 120. The date of the drop request is the date the written request is received at the Registrar's Office.

Financial Aid

Students who apply for financial aid are responsible for completing the necessary paperwork far enough in advance to assure aid is received in a timely manner. For further information, please check with the Office of Financial Aid, Student Services Building, Suite 124.

Undergraduate Student Aid

UAH has several programs to assist students in financing their college education. Comprehensive, updated information on all financial aid offered through the Office of Financial Aid is available online at www.uah.edu/financialaid/ (<http://www.uah.edu/financialaid/>). It includes detailed information about types of aid, eligibility guidelines, application procedures, criteria for awards, disbursement methods and regulations, and institutional policy followed in administration of aid. Additional information and necessary forms are available online and in the Office of Financial Aid.

Students of academic promise who can demonstrate financial need are encouraged to apply for assistance. Realistic financial planning is an essential part of college preparation. UAH helps qualified students find employment, scholarships, and loans as resources permit.

Students should make financial plans well in advance of entering the University. There are two important priority dates for student aid—December 1 for scholarships and April 1 for federal aid (apply online at <https://studentaid.gov> (<https://studentaid.gov/>)). The priority dates are the dates by which completed scholarship applications are certain to be included in the first round of review and by which the Free Application for Federal Student Aid (FAFSA) can be processed in a timely manner. A new FAFSA application must be submitted each year aid is requested.

Types of Financial Aid

Scholarships

(See the Financial Aid (<http://www.uah.edu/admissions/undergraduate/financial-aid/scholarships/>) website (<http://www.uah.edu/admissions/undergraduate/financial-aid/scholarships/>) for Scholarship listings)

Loans

UAH participates in the William D. Ford Federal Direct Loan program. Student loan funds are made available directly from the U.S. Department of Education. Although it is sometimes necessary to borrow money to finance an education, caution is advised. Generally, a student should not rely primarily on loans and is advised not to borrow more than what is needed to meet expenses. Additional information regarding eligibility amounts, loan limits, application procedures and suggested application timelines may be found online at www.uah.edu/financialaid/ (<http://www.uah.edu/financialaid/>). This and other valuable information regarding the financial aid process is available in the Office of Financial Aid.

Grants

The Federal Pell Grant Program assists eligible students by providing help in meeting the cost of postsecondary education. To be eligible, a student must meet the following criteria:

1. demonstrate financial need (for most programs);
2. be a U.S. citizen or an eligible noncitizen;
3. have a valid Social Security number (with the exception of students from the Republic of the Marshall Islands, Federated States of Micronesia, or the Republic of Palau);
4. be registered with Selective Service, (<https://studentaid.ed.gov/eligibility/basic-criteria/#selective-service>) if you're a male (you must register between the ages of 18 and 25);
5. be enrolled or accepted for enrollment as a regular student in an eligible degree or certificate program;
6. be enrolled at least half-time to be eligible for Direct Loan Program funds;
7. maintain satisfactory academic progress in college or career school;
8. sign statements on the *Free Application for Federal Student Aid* (FAFSA[®]) stating that

- you are not in default on a federal student loan and do not owe money on a federal student grant and
 - you will use federal student aid only for educational purposes; and
9. show you're qualified to obtain a college or career school education by
- having a high school diploma or a recognized equivalent such as a General Educational Development (GED) certificate or
 - completing a high school education in a homeschool setting approved under state law.

A Federal Supplemental Educational Opportunity Grant provides aid to undergraduate students who would not otherwise be financially able to attend college. A student must be accepted for enrollment and be eligible for the Federal Pell Grant Program. Grants may be renewed for the four years of undergraduate study, subject to the availability of funds, unless a major change in the family's financial condition causes the student to be ineligible. Grants are awarded in compliance with eligibility based on federal guidelines.

The Alabama Student Assistance Program is a state/federal aid program designed to provide Alabama residents financial assistance for undergraduate postsecondary education. Grants are awarded for one year. The grants are renewable, but new applications must be made each year. All awards are determined by student eligibility requirements, available funds, and student need. Students should contact the Office of Financial Aid for information regarding eligibility, application, selection, and awards procedures.

Federal Work-Study Program

The Federal Work-Study Program provides employment for students who need financial assistance. A participating student works part-time on campus or in a non-profit agency while attending the University. In determining eligibility, preference will be given to students with the greatest financial need.

Return of Federal Financial Aid

Federally funded financial aid (Pell, SEOG, Direct Loans) awarded to a student who withdraws from all classes after registration but before the end of the refund period, or who earns no passing grades for a specific term, must be repaid to the respective program source. When withdrawal or reduction of class load occurs after the end of the refund period, all tuition charges will be paid from the awarded aid and any remaining aid must be repaid to the respective aid source. Specific regulations governing this policy may be found online at www.uah.edu/financialaid. (<http://www.uah.edu/financialaid/>)

Housing Semester Rates

Bevill Center

Studio Suite (One-bedroom Suite)	\$3,750
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Central Campus Residence Hall (CCH)

Private Bedroom in 4-person suite	\$3,460
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Frank Franz Hall (FFH)

Private bedroom in 4-person suite	\$3,555
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North Campus Residence Hall (NCH)

Private bedroom in 4-person suite	\$3,690
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Studio Suite (one-bedroom suite)	\$3,945
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Charger Village (CGV)

Private Bedroom in 4-person suite	\$3,730
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Private Bedroom in 2-person suite	\$3,830
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Studio Suite (One-bedroom suite)	\$4,025
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Southeast Campus Housing (SCH)

Private Bedroom in 3-bedroom suite	\$2,980
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One Bedroom Unfurnished	\$8,760*
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One Bedroom Furnished	\$9,450**
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Fraternity and Sorority Housing (FSH)

Available for 2nd Year and Upperclassmen

Private Bedroom in 10-bedroom house	\$3,480
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* Payable \$2,920 Fall semester, \$2,920 Spring semester, \$2,920 Summer semester.

** 9-month contract. Payable \$3,150 Fall semester and \$3,150 Spring semester.

Note: All Housing rates include basic utilities, Internet access, and basic cable television for each suite.

Meal Plan Rates

Fall 2020 - Spring 2021 Meal Plan Options

*These meal plan options and prices are per semester beginning August 2020 and January 2021.

Option # 1 - \$1,780

21 Meals per week + \$200 Charger Bucks per Semester

This option meets the First-Year Residents' Requirement.

Option #1 provides 21 meals per week. 21 meals allow you to eat each and every meal served in the Charger Cafe throughout the week!

If on occasion, you wish to dine elsewhere, this plan includes \$200 in Charger Bucks that can be used for purchases at Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, the C-Store.

Option # 2 - \$1,780

14 Meals per week + \$300 Charger Bucks per Semester

This option meets the First-Year Residents' Requirement.

Option #2 provides 14 meals per week. As our most popular meal plan, 14 meals even out to 2 meals a day to be used in the Charger Café; perfect for hungry residents on the go!

Of course, #2 provides more Charger Bucks - giving students more flexibility and spending power when it comes to our resident and retail dining options: Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store!

This is the default option for the meal plan requirement for all freshman students living in on-campus housing should students not request a change by the end of the 2nd week of classes each semester.

Option # 3 - \$1,780

10 Meals per week + \$500 Charger Bucks per Semester

This option meets the First-Year Residents' Requirement.

Option #3 provides 10 meals per week. Planning to eat at more retail locations? Need a take-out option for lunch? This is the plan for you!

Option #3 still gives students a meal per day in the Charger Café, as well as \$500 in Charger Bucks to spend at Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store!

Option # 4 - \$1,780

100 Meals per Semester + \$700 Charger Bucks per Semester

This option meets the First-Year Residents' Requirement.

Option #4 provides 100 pre-paid meals per semester in the Charger Café. These meals reset at the end of each semester.

With the most Charger Bucks of any plan, this option provides the student with maximum flexibility and spending power at Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store!

Option # 5 - \$600 Dining Dollars per semester

This option meets the Upperclassmen Resident's Requirement.

Option #5 provides \$600 in Dining Dollars to be used at Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, the Charger Cafe, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store. Unlike Charger Bucks, Dining Dollar Funds roll over from the fall to spring semester and expire at the end of each spring semester.

This is the default option for the meal plan requirement for Upperclassmen living in on-campus housing in North Campus or Charger Village Residence should a student not request a change or decide to choose a meal plan of greater value by the end of the 2nd week of classes each semester.

Option # 6 - \$355 Dining Dollars per semester

This option meets the off-campus students', SECH, and FSH Residents' Requirement.

Option #6 provides \$355 Dining Dollars that can be used at any on-campus dining location including Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, the Charger Cafe, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store. Dining Dollar Funds roll over from fall to spring semester and expire at the end of the academic year.

This is the default option for the meal plan requirement for students living in on-campus housing in Southeast Campus or Greek Housing should students not request a change by the end of the 2nd week of classes each semester.

Option # 7 - \$635

5 Meals per week + \$175 Charger Bucks per Semester

This option meets the Upperclassmen Resident's Requirement, the off-campus students', SECH, and FRSO Residents' Requirement.

Option #7 provides 5 meals per week in the Charger Cafe plus \$175 worth of Charger Bucks to be used at any on-campus dining location including: Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store. Meals and Charger Bucks reset at the end of each semester.

Option # 8 - \$635

70 Meals per Semester + \$150 Charger Bucks / Semester

This option meets the Upperclassmen Resident's Requirement, the off-campus students', SECH, and FRSO Residents' Requirement.

Option #8 provides 70 meals in the Charger Cafe plus \$150 worth of Charger Bucks to use in any of on-campus dining locations including: Chick-fil-A, Burrito Bowl, Papa John's, Charger Brew, Dunkin' Donuts, World of Wings, Mein Bowl, and the C-Store. Meals and Charger Bucks reset at the end of each semester. Get the most bang for your buck with this plan!

Tuition and Fees

The University reserves the right to change its tuition, fees, charges, rules and regulations at the beginning of any semester and without prior notice. Generally, the Board of Trustees of the University of Alabama System considers proposals for changes in fees at the June meeting. These fees do not apply to any short term, off-campus, or noncredit offering. For additional information on these courses, see section on College of Professional and Continuing Studies. Current fees are available on the web at www.uah.edu (<http://www.uah.edu>).

Undergraduate Hours	Resident	Non-Resident
1	510.00	1188.00
2	906.00	2086.00
3	1302.00	2984.00
4	1698.00	3882.00
5	2094.00	4780.00
6	2490.00	5678.00
7	2886.00	6576.00
8	3282.00	7474.00
9	3678.00	8372.00
10	4074.00	9270.00
11	4470.00	10168.00
12-18	4865.00	11063.00
19	5302.00	12121.00
20	5739.00	13179.00

Each additional semester hour is \$437.00 for in-state students and \$1058.00 for out-of-state students.

The University reserves the right to change its fees, charges, rules, and regulations at the beginning of any semester and without prior notice. No penalty/late fees for VA students if unable to meet financial obligation due to delayed disbursement by VA.

Infrastructure Fee

\$17 per hour

**The above tuition and fee rates apply to audited courses.

2020-21 Campus Course and Other Instructional Fees

College of Arts, Humanities, and Social Sciences - \$24 per hour

AMS, ARH, ARS, CL, CM, EH, EHL, GS, GY, HY, MU, MUA, MUE, MUJ, MUX, PHL, PSC, PY, SOC, TH, WLC, WGS

ARS - additional \$25 fee per hour

FMA - additional \$15 fee per hour

TH - additional \$15 fee per hour

MU - Studio Fee of \$125 per hour

MU 100 - additional \$10 fee per hour

College of Business - \$27 per hour

ACC, BLS, ECN, FIN, IS, MGT, MKT, MSC

College of Education - \$24 per hour

ECH, ED, EDC, HPE, KIN

HPE courses have additional fees per course as follows:

1 credit hour course - \$150

2 credit hour course - \$175

3 credit hour course - \$200

College of Education Additional Fees per Course

ED 301	\$100.00
ED 493	\$400.00
ED 497	\$400.00
ED 499	\$400.00
HPE 156	\$75.00
HPE 167	\$100.00
HPE 174	\$50.00
HPE 221	\$25.00
KIN 490	\$100.00
KIN 491	\$100.00

College of Engineering- \$46 per hour

CBS, CE, CHE, CPE, EE, EM, ENG, ISE, MAE, MTS, OPE, OSE

Honors College

Student Service Fee - \$190 per semester

Office of International Services

International Fee (Fall and Spring Semesters) - \$150 per semester

International Fee (Summer Semester) - \$25 each 5-week term

International Fee (Summer Semester) - \$50 each 10-week term

J Visa Processing Fee - \$100 per request

College of Nursing - \$46 per hour

NUR

HESI Exam Fee for 408-20 - \$153

HESI Exam Fee for 408-2 - \$153

HESI Exam Fee for 408-3 - \$153

College of Professional and Continuing Studies - \$24 per hour

PRO

College of Science - \$40 per hour

AST, ATS, BSE, BYS, CH, CS, ESS, MA, MS (*Summer only*), MOD, MTS, OPT, PH, SPA, ST

Academic Transcript Fee

\$10 per request

Listener's License

First Course, if taken in the Fall - \$290

First Course, if taken in the Spring - \$245

First Course, if taken in the Summer - \$200

First Course fees include a parking permit

Each Additional Course \$150

Credit by Departmental Exam

\$10 per hour

2020-21 Other Fees

Parking Permit

Fall Semester Purchase - \$140 (Student permit valid through 08/02/20; Faculty permit valid through 08/31/20)

Spring Semester Purchase - \$95 (Student permit valid through 08/02/20; Faculty permit valid through 08/31/20)

Summer Term Purchase - \$50 (Student permit valid through 08/02/20; Faculty permit valid through 08/31/20)

Meal Plans

Required Meal Plans (<https://www.uah.edu/chargercard/meal-plans/>)

Charger ID Cards

New Students - \$10

Replacement Card - \$25

2020-2021 Intensive Language and Culture Program Rate Fees

ILC - \$285 per hour

2020-2021 Distance Learner Rate Tuition

Undergraduate students enrolled in an online degree and non-degree program, online courses, and/or online certificate program are charged the same as the in-state campus rate per semester hour. Graduate students enrolled in an online degree program, online courses, and/or online certificate program are charged the distance learner rate.

Undergraduate and graduate students who are enrolled in courses, degree programs, or certificates in a blended delivery modality are charged the campus rate.

*University tuition for graduate students enrolled in the joint (UAH and UA) Doctor of Philosophy in Nursing Science program per semester hour: \$417 and are not assessed college nor infrastructure fees.

Graduate Courses

College of Arts, Humanities, and Social Sciences - \$405

College of Business - \$524

College of Education - \$405

College of Engineering - \$596

College of Nursing - \$405

College of Science - \$596

Non-degree Seeking Student - \$596

Alabama PACT Program 2020-21

The Alabama PACT Program will pay at the following rates:

Hours	Resident
1	\$496.91
2	\$882.59
3	\$1,268.27
4	\$1,653.95
5	\$2,039.64
6	\$2,425.32
7	\$2,811.00
8	\$3,196.68
9	\$3,582.36
10	\$3,968.04
11	\$4,353.74
12	\$4,739.42
13	\$4,963.30
14	\$5,187.20
15	\$5,411.11
16	\$5,635.01
17	\$5,774.75
18	\$6,082.81
19	\$6,306.70
20	\$6,530.58
21	\$6,754.49
22	\$6,978.39
23	\$7,202.28
24	\$7,426.19
25	\$7,650.07
26	\$7,873.98
27	\$8,097.88
28	\$8,321.78
29	\$8,545.68
30	\$8,769.58

Policies and Procedures

The University of Alabama in Huntsville has various policies and procedures that guide our faculty, staff, and students. This section of the catalog provides detailed information on these policies, with which you should be familiar. Failure to read and comply with the policies listed here will not exempt a student from being held accountable to them. Additional policies are listed in the Student Handbook (<http://www.uah.edu/student-support/student-conduct/handbook> (<http://www.uah.edu/student-support/student-conduct/handbook/>)). Please note that the policies identified in this catalog do not represent an entire repository of university policies, as colleges and departments may implement policies that are not listed here. In addition, policies may be amended throughout the year.

Academic Achievement

President's List

An undergraduate student in good standing earning 12 or more hours in a semester with a GPA of 4.00 is distinguished by being identified on the president's list.

Dean's List

An undergraduate student in good standing earning 12 or more hours in a semester with a GPA of 3.50-4.00 is distinguished by being identified on the dean's list.

Scholar

An undergraduate student in good standing earning 12 or more hours in a semester with a GPA of 3.00-3.49 will be designated as a scholar.

Graduation with Honors

Graduation with honors at the baccalaureate level requires a minimum of 60 semester hours at UAH. Honors will be determined by the GPA for the last 60 semester hours of coursework taken at UAH or the overall GPA for all coursework taken at UAH, whichever is higher. The academic terms containing the last 60 semester hours of coursework taken at UAH will be identified and the GPA of all UAH courses taken during those terms to satisfy graduation requirements will be computed and the honors will be determined as follows:

- If the GPA computed as above is 3.90 or above, the student graduates summa cum laude.
- If the GPA computed as above is 3.70 or above (but below 3.90), the student graduates magna cum laude.
- If the GPA computed as above is 3.40 or above (but below 3.70), the student graduates cum laude.

Honors Convocation

The University faculty recognizes and honors those students who have attained academic excellence at a convocation held in the spring of each year. At the Honors Convocation, students who have been inducted into the honor societies, who have been named to the dean's list in each college, and who have attained excellence in academic programs are recognized.

Academic Warning, Probation, and Dismissal/Suspension

In order to be in good academic standing, students must maintain a GPA above the Academic Action Threshold (AAT), which varies according to classification. For freshmen and sophomore students, the AAT is 1.9; for juniors and above, the AAT is 2.0. A student whose semester GPA at UAH falls below the applicable AAT will be placed on academic warning, probation, or dismissal.

Academic Warning

Students are subject to academic warning if they are in good standing and earn less than the applicable AAT for the semester; or if they earn the applicable AAT or greater for the semester but the UAH cumulative is less than the applicable AAT.

Probation

Students are subject to academic probation if they are on academic warning and the current semester GPA is less than the applicable AAT and the UAH cumulative is less than the applicable AAT.

Dismissal/Suspension

Students are subject to academic dismissal if they are on academic probation and the current semester GPA is less than the applicable AAT and the UAH cumulative is less than the applicable AAT.

A regularly admitted student dismissed for the first time is automatically eligible to re-enter after being out of school one term. A student admitted in any special category and dismissed for the first time must petition the Admissions Committee for permission to re-enter after an absence of at least one term. A student dismissed for the second time is considered suspended and disqualified for readmission. After a period of one year, such student may petition for re-admission. Individual colleges may have additional requirements specific to their programs. Refer to college sections.

Conditional/Probational to Regular Status

Students admitted conditionally or on probation will be evaluated for regular student status after completion of at least 15 semester hours at UAH. If the student at that time has earned a 2.00 on all UAH coursework, the Conditional/Probational classification will be changed to regular student status. The deadlines to submit a petition for readmission to the Registrar's Office (SSB 120) are July 1 for Fall, November 15 for Spring, and April 1 for Summer readmission.

Academic Appeals Process

Academic appeals will originate in written form by the student and will be processed through the Chair of the student's major department, the Dean of the College, and the Office of the Provost and Executive Vice President for Academic Affairs, in that order. Students classified as "special" will be routed through the most appropriate academic dean. Students should contact their major advisor for assistance. The decision of the Provost is final.

Transcripts

There are two ways to request an official UAH transcript.

1. Fill out the transcript request form (<http://www.uah.edu/images/admissions/Registrar/Charger%20Central/Forms/offtran071116.pdf>). The completed form and payment information can be sent via fax to 256.824.7780, scanned and emailed to registrar@uah.edu, mailed to our office, or dropped off in-person.
2. You can also request electronic or paper official transcripts through the National Student Clearinghouse (<https://tsorder.studentclearinghouse.org/school/ficocode/00105500/>).

- o In order to send PDF transcripts, you must request them through the link above.

Please note: effective August 1, 2016, a 3% convenience fee will be added to all credit/debit card payments. However, if you use the National Student Clearinghouse (<https://tsorder.studentclearinghouse.org/school/ficocode/00105500/>) to request transcripts, you will *not* be charged the convenience fee.

Course Numbering System

Range Year	Student Normally Takes Courses
001-099	Refresher (noncredit)
100-199	Freshman
200-299	Sophomore
300-399	Junior (upper-level)
400-499	Senior (upper-level)
500-599	Graduate
600-699	Graduate
700-799	Graduate, Ph.D. level

Academic Responsibility

Students at the University of Alabama in Huntsville have the following academic responsibilities:

1. To enroll in only those courses for which the stated prerequisite(s) (if there are any) has/have been satisfactorily completed. Failure to comply with this procedure may result in administrative withdrawal.
2. To attend all meetings of each class in which they are enrolled. Instructors will announce at the beginning of the semester if they consider attendance in computing final grades.
3. To observe all regulations of their college and select courses according to the requirements of that college.
4. To consult their advisors on all matters pertaining to their academic careers, including changes in their programs.
5. To answer promptly all written notices from advisors, faculty, deans and other University officers.
6. To maintain the integrity of the classroom by practicing academic honesty. Students should refer to the student handbook for details regarding academic dishonesty.
7. To file an "Application for Degree" in the Office of Student Records by the published deadline.
8. To be personally responsible for fulfilling all requirements for graduation and observing all regulations at UAH.

Academic Honesty

Plagiarism and other forms of cheating are subject to penalties as outlined in the Student Handbook (<http://www.uah.edu/dos/student-conduct/handbook/>).

Application for Graduation

Candidates for graduation must file their application at least one semester prior to the time requirements are expected to be completed. Deadlines are announced each semester and application forms may be obtained at <http://www.uah.edu/registrar/commencement/apply-to-graduate> (<http://www.uah.edu/registrar/commencement/apply-to-graduate/>). Early application will assist the student by confirming requirements remaining to be completed. Requirements must be completed and certified prior to the published deadline. Diplomas are issued at the end of each semester or during commencement ceremonies.

Total Degree Requirements

1. Minimum Degree Requirements

- o Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science in Business Administration, Bachelor of Science in Economics and Computational Analysis, and the Bachelor of Arts or Bachelor of Science in Professional Studies have a minimum of 120 semester hours.

- o Bachelor of Arts in Education or Bachelor of Science in Education have a minimum of 123 semester hours.

- o Bachelor of Science in Nursing requires no less than 120 semester hours; different programs/tracks within the degree may require more than 120 semester hours.

- o Bachelor of Science has a minimum of 120 semester hours.

o The Bachelor of Science in Aerospace Engineering, Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Industrial and Systems Engineering, and the Bachelor of Science in Mechanical Engineering have a minimum of 128 semester hours.

o Bachelor of Science in Optical Engineering requires 129 semester hours. (No students will be admitted after fall 2018).

2. A minimum of 25% of the total requirements and 12 of the last 18 semester hours must be completed at UAH.
3. Unless otherwise specified by the department involved, a minimum of 12 semester hours of upper-level courses numbered 300 or above must be completed at UAH in a student's program (6 semester hours in the major and 6 semester hours in the minor or cognate studies).
4. A minimum of 30% of the total degree requirements must be taken in courses numbered 300 or above (39 semester hours for a 128 semester hour requirement).
5. The maximum amount of correspondence or credit by examination allowed towards a bachelor's degree is 50% of the degree requirements.
6. An overall average of C is required for all courses taken at UAH; and in all courses in the major discipline taken at UAH; and in all courses in the minor discipline taken at UAH or in all courses listed in the cognate studies option taken at UAH.
7. A maximum of 50% of a degree program may be earned from a junior, community or two-year college. Requests for exceptions must be in writing and approved by the Dean of the College in which the student is enrolled.
8. Additional requirements for each degree are described in the appropriate sections of this catalog.

Time Limit

The degree requirements for graduation are normally those specified in the catalog in effect when a student first registers as a degree-seeking student at UAH. At any time during the student's enrollment that requirements for graduation are changed, a student may elect to graduate under the new requirements. If the student does not complete requirements for graduation within seven years from the date of entry or seven years from the date of the catalog chosen, the student must then change to the catalog in effect and meet the requirements as specified. If a student breaks enrollment for a period of at least 24 months, the student must then change to the catalog in effect at the time of re-enrollment and meet the requirements as specified. The student's advisor and college dean must approve any exceptions to this policy with the proper notation filed in the student's program of study in the Registrar's Office. At any point at which a change in catalog becomes necessary, a new program of study must be completed and proper notation filed in the Registrar's Office.

Confidentiality of Student Records

The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law that protects the confidentiality of student education records. To implement FERPA, the University has formulated and adopted a written institutional policy governing the handling of these records.

The term "education records (http://www.uah.edu/registrar/ferpa/#educational_record)" under FERPA includes generally any record, whether in a printed, handwritten, audio, video, or computer media format, maintained by the University and containing information related to a student in his/her role as a student (<http://www.uah.edu/registrar/ferpa/#student>). Certain records are, however, excluded by FERPA from this broad definition, such as those made by instructional, supervisory, and administrative personnel and kept in their sole possession, those made by campus police, and those made by a physician or other professional medical personnel in connection with treatment of the student.

Under FERPA and University policy, a student has a right of access to his/her education records and may inspect and review the information contained in them. To exercise this right, the student should present a request to the University office where the record is located, and a response will be made no later than 45 days later. In certain cases, a copy of the record may be provided, with a copying fee, as an alternative to actual inspection. Some records are not within this right of review, such as financial information from the student's parents and confidential letters or statements of recommendation where the student has waived the right of access.

A student who believes his/her education records contain information that is inaccurate, misleading, or in violation of his/her privacy rights may bring the matter to the attention of the appropriate records official. If by informal discussion with this official the student does not obtain the corrective action desired, the student will then be entitled to a hearing at which he/she may challenge the objectionable item. Additional information about hearing procedures will be given to the student at that time. The decision of the hearing official or panel shall be final. If the decision is adverse to the student, he/she may insert in the education record an explanatory statement about the disputed item.

A student's privacy interest in the education record is further protected by the rule against unauthorized disclosure. Generally, the University may not, without the student's consent, release the education record or personally identifiable information (http://www.uah.edu/registrar/ferpa/#personally_identifiable_information) in it to other individuals or entities.

Disclosure in certain circumstances, however, is specifically excepted by FERPA from the foregoing rule. These circumstances include disclosure to certain parties—University personnel who have a legitimate educational interest in the information, officials of institutions where the student is seeking to enroll, parties to which the student is applying for financial aid, the parent of a dependent student, etc.; disclosure to comply with a judicial order or lawfully issued subpoena; or disclosure in connection with a health or safety emergency. Under the first exception, "University personnel (http://www.uah.edu/registrar/ferpa/#personally_identifiable_information)"

www.uah.edu/registrar/ferpa/#university_official)" includes any UAH employee, and a "legitimate educational interest (http://www.uah.edu/registrar/ferpa/#legitimate_educational_interest)" means that the employee has a need for access to the record to perform appropriate tasks clearly within the area of responsibility of the employee, to perform a task related to the education or discipline of the student, or to provide a benefit or service relating to the student. Personally identifiable information will be transmitted by the University under these exceptions only upon the condition that the recipient not permit any other party to have access to it without the student's consent.

The University may also release what is called "directory information (http://www.uah.edu/registrar/ferpa/#directory_information)" without obtaining the student's consent. Directory information is limited to the following: the student's name, address (local and permanent), telephone number, e-mail address, date and place of birth, enrollment status (full-time or part time), major field of study, participation in officially recognized activities and sports, dates of attendance, degrees and awards received, the previous educational institution most recently attended, and a photograph of the student. However, a student may prevent the release of even this information, if he/she wishes, by completing a form provided for this purpose in the Office of Student Records.

Any student who believes that his/her rights under FERPA have been violated by the University may notify and request assistance from the Provost and Executive Vice President for Academic Affairs. The student may also file a complaint with the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-5920.

Course Repeat Policy

Students should be aware that repeated or forgiven courses and their assigned grades will remain on the transcript, and employers or graduate schools may choose to use those grades and recalculate a student's GPA. Repeats and forgiven courses may not be looked upon favorably by some employers and by professional or graduate schools.

Students shall be allowed to repeat no more than three (3) courses with grade replacement, and to forgive no more than three (3) courses. Definitions of "course repeat" and "course forgiveness" and specific policies and procedures for each are described below.

COURSE REPETITION

Students repeat a course when they retake a course they have already taken. They may repeat the course to improve their grade or to obtain a better understanding of the course material. For undergraduates, the original grade remains on the transcript but is not calculated into the cumulative GPA. Undergraduates may have three repeats in which the new grade is used to calculate the cumulative GPA. Graduate students are allowed only one repeat in which the new grade is used to calculate the cumulative GPA. For any additional courses repeated, beyond three for undergraduate students and beyond one for graduate students, both the original and the repeated grades appear on the transcript and both are calculated into the cumulative GPA. Repeated courses may count toward the requirements of students' majors. (Example: an undergraduate student fails Calculus A, but repeats it because they need the course for their major. Upon the second attempt, the student earns a passing grade and continues with the course of study).

Students may repeat a course in order to achieve a passing grade or an improved understanding.

- Students may not replace a grade with a W.
- Students may not repeat a course for which they have higher-level credit. For example, a student cannot repeat Pre-Calculus Trigonometry after s/he has credit for Calculus.
- For the first three courses repeated, the original grade will not be calculated into the student's cumulative grade point average. Each course repeat counts against the maximum of three course repeats that can replace the previous grade. For example, a student may use all three repeats in a single course or in three separate courses or any combination of separate courses and multiple repeats of single courses.
- The transcript will show both the original grades and the course repeat grades, but only the grade points and semester hours earned in the repeated courses or final repeated course when multiple repeats are used for one course count toward graduation and are averaged into the student's GPA.
- After three course repeats, all other courses repeated at UAH will result in both the original grade and the course repeat grade being calculated into the student's GPA.
- This course repeat policy will be automatically applied unless the student files for an exemption when registering. The Course Repeat form can be downloaded from the Office of the Registrar (<https://www.uah.edu/registrar/forms/general/>). They are also available in person in the Student Services Building, Room 120. Call 256.824.7777 or email registrar@uah.edu if you have any questions.

COURSE FORGIVENESS

Students have a course forgiven when the grade from that course no longer figures into their cumulative GPA, although it remains on their transcript. Forgiven courses may not count toward the requirements of a student's major. (Example: a student fails Calculus A, but has it forgiven upon request of the student because s/he changes to a major in a different college that does not require Calculus A. The grade from this course is no longer included in the student's cumulative GPA, although the course and the original grade still appear on the transcript as forgiven).

Only undergraduates may apply for course forgiveness.

- Students may forgive any three courses, provided that they are not required for their major.
- Any forgiven courses and the assigned grades remain on the transcript, but the grades are not calculated into the student's cumulative grade point average.
- Forgiveness cannot be used for classes in which an F was earned for academic dishonesty.
- Forgiveness is retroactive but must be done before graduation.
- Forgiveness does not apply to pass/fail courses.
- Students cannot transfer an equivalent course from another institution after a course is forgiven.
- Forgiveness cannot be unforgiven. (The grade for a forgiven course cannot be restored once forgiveness for that course has been approved.)
- Students apply for grade forgiveness by downloading the Course Forgiveness form from the Office of the Registrar (<https://www.uah.edu/registrar/forms/general/>). Forms are also available in person in the Student Services Building, Room 120. Call 256.824.7777 or email registrar@uah.edu if you have any questions.

Double Major/Dual Degree/Second Bachelor's Degree

A student may choose to have a double major and earn one degree. The following policy applies to those students who wish to earn two degrees simultaneously or sequentially to a first degree. As early as possible, a student should meet with an assigned faculty advisor to indicate on the Program of Study form the intent to pursue a second degree. The Program of Study form must specify the requirements for each degree and contain the approval of the appropriate chairs and dean(s).

Double Major

With approval of the two appropriate departments, a student who wishes to concentrate in two disciplines may pursue a program of study that leads to a B.A. or B.S. degree with a double major. If a minor is required for a major, then the minor requirement is waived for students with double majors. General education requirements and all requirements stipulated for each of the two majors must be completed. The total requirements of some programs may exceed 128 semester hours.

Dual Degree

If a student elects to earn a second degree simultaneously with a first degree (e.g., B.A. and B.S.), the student must:

1. satisfy all applicable requirements for each degree,
2. earn at least a C average in all UAH coursework,
3. complete minimum degree requirements of the combined degree program, and
4. complete majors and/or minors appropriate to the degrees (a major for one degree may count as a minor for the other degree).

Second Bachelor's Degree

If a student elects to earn a second degree at UAH after having earned a first degree at UAH or another institution (e.g., B.A. after earning a B.S.B.A.), the student must:

1. satisfy all applicable requirements for each degree (Charger Foundations requirements are satisfied through the first degree),
2. earn at least an average grade of C in all UAH coursework,
3. complete a minimum of 25% of the total degree requirements at UAH for the second degree, and
4. complete majors and/or minors appropriate to the degrees (a major for one degree may count as a minor for the other degree).

A specific course required for both the first and second degree does not have to be repeated; however, only courses completed after the first degree will be applied to the minimum number of semester hours required for the second degree.

Graduation with honors recognition for the second bachelor's degree requires a minimum of 60 semester hours of coursework taken at UAH above the requirements for the first bachelor's degree. Honors will be determined by the grade-point average for the last 60 semester hours of coursework taken at UAH above the requirements for the first bachelor's degree or all coursework taken at UAH above the coursework for the first baccalaureate degree, whichever is higher. Honors calculation for the second bachelor's degree follows the same procedures as graduation honors for the first baccalaureate degree.

Registration

Dates, times, procedures and eligibility conditions for registration are published on the UAH website. Registrations for Fall and Spring Semesters begin several weeks before the start of the new semester and continue through the fifth day of classes. All financial obligations to the University must be

cleared before a student may register for courses. Students should consult with their academic advisor prior to registration. Non-degree students have a lower registration priority.

Concurrent registration for multiple sections of a course is not allowed.

A student who schedules courses during registration makes a financial commitment to the University. Course adjustments, drops and withdrawals must be officially transacted in writing on a Registration/Schedule Adjustment form and recorded by the Office of the Registrar by the published deadlines. Adjustments in fees, if any, will be made by the Office of the Bursar. The University assumes no responsibility for students who attend classes without proper registration.

The Semester System

The academic year is divided into two semesters and one summer session. The fall semester begins in late August and ends in December. The spring semester begins in January and ends in May. The summer term consists of 10 weeks with two 5-week mini-sessions. The summer session begins in May and ends in August. (See Academic Calendar (<http://catalog.uah.edu/general-information/academic-calendars/>)).

In addition, the University offers a Maymester term that begins after the Spring term and before the Summer term. Maymester is a 3 week term with the same contact time as a regular semester course. Maymester credit courses are intense and require significant effort on the part of the instructor and the student. Departments carefully select courses that are suitable for this fast pace, and students registering for Maymester courses should be in good academic standing. Students may only register for one course during Maymester and Maymesters are considered part of the Summer academic term. The policies for registration, payment, grading, etc. are the same as for other summer courses.

A semester hour is an academic unit of credit awarded for the completion of educational activities. The amount of credit awarded depends on the expected amount of time required to complete in-class and out-of-class work during a semester for a course that is passed. For example, each semester hour awarded for a lecture course at UAH requires at least one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester. At least three hours of work per week is required for each semester hour awarded for practica, internships, activity courses, laboratory experiences, and distance learning courses, although there will be variations in the amount and type of instruction and the minimum amounts of outside student work to accommodate differences among academic disciplines and the natures of particular subject matters and courses. The institution reserves the right to make semester hour assignments that exceed the minimum time requirements stated. Time expectations for work outside of class are minimums and may be higher depending on the nature and level of the course as well as the ability, commitment, and learning style of the student.

In the Department of Art, an undergraduate studio semester hour at UAH consists of at least 1.66 hours of in class instruction with a minimum expectation of at least 1.33 hours of work outside of class each week. For a three semester hour studio art course this would equate to at least five (5) hours in class and at least four (4) hours outside of class per week during a 15-week semester. Time expectations for work inside and outside of class are minimums and may be higher depending on the nature and level of the course, and for outside work, [also] on the ability, commitment, and learning style of the student.

Student Course Loads

The typical full-time undergraduate course load is 15-18 semester hours each semester. Students should take between 30 and 33 semester hours annually in order to graduate in four years. The minimum full-time load for an undergraduate student is 12 semester hours per semester.

A part-time student is one who is enrolled in less than 12 hours and is defined as follows for all academic terms/semesters (fall, spring, summer): Full time = 12 or more semester hours

¾ time = 9.00 to 11.5 semester hours

½ time = 6.00 to 8.5 semester hours

Less than ½ time = 0.5 to 5.5 semester hours

Prerequisite, Prerequisite with Concurrency, Co-requisite

Some courses offered at UAH require students to complete a prerequisite or prerequisites prior to registering for a course, to register for a prerequisite with concurrency, and to register for a co-requisite course. The definitions for these categories are as follows:

Prerequisite – a course must be taken before a target course, i.e., successful completion of EH 101 before registering for EH 102.

Prerequisite with Concurrency – a course must be taken before or at the same time as a target course, i.e., CH 101 and CH 105; PH 111 and PH 114; CE 271 and MA 201. A "W" or "F" grade in one course does not require that a student re-register for both courses. Prerequisite with concurrency courses do not have to be completed at the same time. A student may withdraw from a target course or a concurrent course and continue enrollment in the other course and vice versa. **Note: A student may be asked to withdraw from a required course if in the judgment of the instructor/chair/advisor the student does not have the requisite knowledge to successfully complete the course (i.e., CE 271 and MA 201).**

Co-requisite – a course must be taken simultaneously with a target course, i.e., BYS 119 and BYS 121; PH 102 and PH 102L; CPE 211 and CPE 211L; CE 370 and CE 370L; MAE 311 and MAE 311L; NUR 660 and NUR 660L, and etc. Co-requisite courses must be completed at the same time. A student may withdraw from a target course; however, the student must also withdraw from the co-requisite course and vice versa.

Student Classification

An undergraduate is classified as indicated in the following table when a student has completed the number of semester hours shown.

Semester	Hours Earned
Freshman	0-30
Sophomore	31-60
Junior	61-90
Senior	91 and up

Schedule Adjustments

After the beginning of an academic term, students seeking to change their course schedules must follow the Schedule Adjustment Process. Schedule adjustments fall into seven categories: Drop/Add, Late Addition, Credit/Audit, Withdrawal, Retroactive Withdrawal, and Medical Withdrawal. The following definitions and procedures will govern the Schedule Adjustment Process.

Drop/Add

After classes have begun, students should consult with their academic advisor and other university officials for advice and approval before making any schedule changes. Students are advised to check the impact of dropping courses on things like financial aid, athletics eligibility, visa status, etc.

Through the sixth day of classes for a ten-week or fifteen-week semester, fourth day of a seven-week semester, or third day of a six-week or shorter semester, students may Add a course through the web-registration process, by meeting with their advisor, or by submitting a Registration/Schedule Adjustment form to the Office of the Registrar.

Through the sixth day of classes for a ten- or fifteen-week semester, fourth day of a seven-week semester, third day of a six week or shorter semester, students may Drop any or all courses from their schedule and receive a refund of tuition and fees associated with the dropped courses.

Late Addition

In rare circumstances a student may have a legitimate and substantial need to register, add a class or change a class section after the deadline (i.e., Last Day to Add a Class). In these instances the student must complete the Registration/Schedule Adjustment form, with recommendations (approval/non-approval) from the instructor and the chair of the department that offers the course. The Office of the Registrar will process the request once approvals are obtained.

New international students who want to register after the deadline must obtain approval from the International Student Advisor, and in the case of graduate students, the Graduate Dean. Approvals for late registration for new international students will include the respective academic units.

Credit to Audit

A student is permitted to change a course from credit to audit through the fourth week of a fifteen-week semester, the third week of a seven- or ten-week semester, and the second week of a five-week or shorter semester. The instructor is not required to grade any written assignments that may be submitted by an auditing student. A student who elects to audit a course may not at any point after electing to audit, change to "for-credit", i.e., graded status. Any student failing to follow established procedure for change to audit will continue to be enrolled in the class for credit and may receive a failing grade in that course.

Withdrawal

After the Drop/Add period a student may Withdraw from any course and receive a grade of W. The deadline for Withdrawal is the last day of class prior to final exams for all parts of term.

Withdrawal is accomplished by either 1) executing a withdrawal on the registration website or 2) by submitting a Registration/Schedule Adjustment form to the Office of the Registrar. No signatures or approvals are required for a Withdrawal, but students should consult with appropriate officials to determine the impact that withdrawing from a course may have on financial aid, athletics eligibility, visa status, etc.

Class non-attendance does not constitute withdrawal nor does notification to the instructor. Any student failing to follow the established procedure for withdrawal will continue to be enrolled in the class and may receive a failing grade in that course.

Retroactive Withdrawal

Undergraduate students may at times experience extraordinary problems during an academic term. Within two years of having completed such a semester, a student may petition the Dean of Students to withdraw retroactively from ALL classes taken during that term. A retroactive withdrawal is granted only under exceptional circumstances, such as extraordinary circumstances and is only granted prior to graduation. The petition must use the Retroactive Withdrawal form and include clear and documented evidence whenever possible. The Dean of Students verifies the documentation and considers the petition. If the request is granted, the grades for ALL courses taken during the semester in question will be changed to W's. Petitions for

Retroactive Withdrawals are considered after final grades are posted. Students should be aware that retroactive withdrawals may have an impact on their ability to receive or retain financial aid and timely completion of their degree.

Medical Withdrawal

Students may at times experience medical hardships that prevent them from attending class and necessitate a withdrawal. Decisions on whether to award a Drop, Withdrawal, Refund, etc. must include sufficient documentation to justify the request. In such cases the student should contact the Dean of Students office for assistance.

Recording of Withdrawals

If the withdrawal process is completed after the first six days of the semester, then the withdrawing student's name will be on the final roll of the class from which the student withdrew, and that course will be recorded on the student's permanent record with a final grade of W.

Counseling

Students need to be aware that many potential employers, as well as graduate and professional schools, view an excessive number of W's on a transcript as a flag that the student cannot be counted on to complete demanding projects. Advisors should be informed of this fact and students should be encouraged to discuss with their advisors any plans to withdraw from a course, especially after the first two weeks of the semester.

Grading System

The University of Alabama in Huntsville's grading system includes grades of A, B, C, D, F, I, X, W, S, U, P, AU, and N. Instructors have the option of augmenting the course grades of A, B, C, and D with symbols "+" and "-" signifying, respectively, high and low achievement within the assigned grade. These augmented letter grades become part of the student's permanent record and appear on transcripts, but augmentation of a letter grade does not affect its value for the purposes of the GPA computation.

A	Superior achievement. Four quality points given per semester hour.
AU	Audit. Course attendance as a listener. No credit given, no quality points assigned, no attendance requirement.
B	Above average achievement. Three quality points given per semester hour.
C	Average Achievement. Two quality points given per semester hour.
D	Passing work. One quality point given per semester hour.
F	Failing work. No credit given; no quality points assigned.
I	Incomplete. Assigned by the instructor when a student, due to circumstances beyond his or her control, has not satisfied some requirement of the course. The deadline for a student to remedy a grade of I is the last day of class of the next semester enrolled or one calendar year from the date of the grade whichever occurs first. If the grade of I is on a student's record at the time of graduation, it is treated as an F.
N	No grade. Assigned by the Office of the Registrar when the instructor does not report a grade.
P	Passing work. Assigned in some courses. See Pass-Fail Option.
S	Satisfactory work. Applicable to noncredit courses and to some specified credit courses, and will not be counted in the GPA.
U	Unsatisfactory work. Applicable to noncredit courses and to some specified credit courses.
W	Withdrawal. (See Withdrawal Policy.)
X	Excused absence from examination. Assigned by the instructor when a student completes all course requirements except the final examination. The final grade becomes an F unless the examination is completed by the time of the announced deferred examination date at the beginning of the semester of next regular enrollment of the student. (See Examinations and UAH calendar). Time schedule permits a student to take only one examination on this date. If a student receives more than one grade of X, he or she should make arrangements directly with other instructors for additional make-up examinations.

Course Numbering System

Range Year	Student Normally Takes Courses
001-099	Refresher (noncredit)
100-199	Freshman
200-299	Sophomore
300-399	Junior (upper-level)
400-499	Senior (upper-level)
500-599	Graduate
600-699	Graduate
700-799	Graduate, Ph.D. level

Change of Grade

When it is believed that a grading error may have occurred, a student is permitted a maximum of one semester from the date a grade is assigned to request a change of course grade. Grades submitted to the Office of the Registrar can normally be changed only by submission by the instructor on a Change of Grade form containing a written explanation of the error. The Change of Grade form must be approved by the department chair and received in the Office of the Registrar no later than two semesters from the date the original grade was assigned.

Academic Appeals

An academic appeal may be filed by a student regarding an action taken by University personnel, including instructional personnel, administrators, or staff members at the University, that affects the student's academic standing. Examples of academic appeals include, but are not limited to, allegations of unfairness in grading, alleged violation of a written or oral agreement with a student (e.g., course requirements for graduation), and alleged inconsistent applications of existing policies. Appeals related to course grades must be filed within 30 days of the end of the semester/term in which the grade was earned. Students wishing to file an appeal must follow the Academic Appeals policy, found at https://www.uah.edu/images/administrative/policies/02.01.12-AA_Academic_Appeals_Policy.pdf

Pass-Fail Option

A student wishing to exercise a P-F option must apply to the Office of Registrar (SSB 120) when registering or before the end of the third week of classes. Any undergraduate student not on academic probation may take courses on a P-F basis. **P-F policies vary from college to college; consult your advisor before selecting this option.**

A student is limited to 12 semester hours of credit on a P-F basis over the course of the degree. Courses listed on the Program of Study (major, minor, cognate, track, cluster, specialization, option and concentration) may not be taken P-F. Required courses in English composition and mathematics, as well as the rest of the Charger Foundations, (p. 28) may not be taken P-F. Departments may limit the P-F to courses outside the department or college.

A grade of P may be changed to a regular grade only if the student changes his or her program to an area in which a regular grade is required. The change must be initiated at the dean's office and must go through the normal grade change procedures. Once a P grade has been changed to a regular grade, the regular grade must remain. Under the P-F system, a grade of P will not be counted in a student's grade-point average; a grade of F will be counted in a student's grade-point average.

Even though a student chooses to take courses on the P-F basis, instructor's grade sheets will reflect the regular grade and the student may be informed of the regular grade upon request.

Examinations

During each semester, one or more announced examinations of class period length may be held. At the end of each semester, a final examination period is scheduled for each course. Absences from a scheduled final examination without previous arrangement with the course instructor (except in extenuating circumstances) will be classified unexcused and a failing grade in the course will be assigned.

Any student whose final examination schedule is such that the student is scheduled to take three examinations during a single day shall have the right to have the middle examination rescheduled. The date and time of the rescheduled examination shall be by mutual agreement between the student and the affected faculty member and must be agreed upon prior to the final week of the semester. It is the student's responsibility to notify the instructor of this type of conflict, and it is the instructor's responsibility to verify that the conflict actually exists. If a student is scheduled to take four examinations during a single day, then the same procedure shall apply except that the student shall now have the right to have both the second and fourth examinations rescheduled.

Student Grade Report

At the completion of each semester, a report of final grades is available for viewing using [myuah.uah.edu](https://my.uah.edu) (<https://my.uah.edu/>).

Grade Point Average

The grade point average (GPA) is computed by dividing the total number of quality points earned at UAH by the total number of semester hours attempted at UAH (transfer grades are not included). Courses in which a grade of NC, W, P, S, X or AU is assigned are not included.

Change of College

Students who are pursuing a program of study in one college at UAH and desire to change to a program in another college may petition to do so by making application at the Office of the Registrar. Academic advisement before changing programs may help students avoid losing credits. Application of previously earned credits toward the new program will be determined after the transfer has been approved.

Student Athletes

Student athletes must declare a major and follow an academic plan by the beginning of the third academic year or fifth academic semester.

Support Services

The University of Alabama in Huntsville provides a wide range of support services designed to help students succeed throughout their college career and after. Our Student Success Center is staffed with tutors and academic coaches who offer assistance in a variety of subjects, while the Student Health Center keeps our students performing at their best. We even have Career Services to help them plan for life after graduation. Information on the services we offer to enhance the college experience can be found in this section of the catalog.

Academic Support Services

Student Success Center (SSC)

Salmon Library First Floor
www.uah.edu/ssc/ (<http://www.uah.edu/ssc/>)
ssc@uah.edu
256-824-2478

The Student Success Center (SSC) provides academic support programs that empower individuals to realize their potential as self-directed learners. The SSC is located in the Salmon Library. To learn more about any of our programs, visit the SSC website (<http://www.uah.edu/ssc/>) or call 256-824-2478.

Tutoring Programs

The Tutoring Programs consist of Academic Coaching, Content Tutoring, and Writing Tutoring. The goal of the Tutoring Programs is to work with UAH students not only on content, but also on study and learning strategies so that students can become independent learners. The programs provide academic support to students in-person and online through one-on-one and small group sessions.

Academic Coaching guides students through improving their performance in and out of class by offering sessions on study, learning, and self-management strategies. During a session, coaches and students work together to create a personalized action plan.

Content Tutoring provides academic support for students in over 100 courses. Tutors work with students on course content and developing study and learning strategies. In addition to appointments, math and physics drop-in tutoring is also available.

Writing Tutoring assists students in becoming more confident and successful writers. Writing tutors use peer consultations at any point in the writing process to encourage writers to identify and develop their own writing skills.

To make an appointment, view the drop-in schedule, or learn more about our programs, visit the Tutoring Programs website (<https://www.uah.edu/ssc/tutoring/>) or call 256-824-2478.

Peer Assisted Study Sessions (PASS)

The Peer Assisted Study Sessions (PASS) Program provides academic support for students enrolled in designated courses that are considered historically difficult. PASS provides an active learning environment that focuses on both practicing course content and developing study and learning strategies for the course. Sessions are offered several times a week outside of class and are led by UAH students who have successfully completed the course and are trained to facilitate group learning. To find out more about the program or view the current PASS schedule, visit the PASS (<http://www.uah.edu/ssc/pass-program/>) website (<http://www.uah.edu/ssc/pass-program/>) or call 256-824-2478.

Student Success Center Canvas Page

The Student Success Center Canvas (<https://uah.instructure.com/courses/28557/>) page is available to all undergraduate students as a real-time resource for tips on how to be a successful college student. Students can access short videos and detailed handouts on important topics such as time management, forming effective study groups, reading strategies, and test-taking tips.

Academic Success Advocacy Program (ASAP)

The Academic Support Advocacy Program (ASAP) provides one-to-one academic consultations. Students work individually with an advocate to navigate challenges that may come with the college experience. Meetings promote the student's ability to explore, self-reflect, and evaluate their experiences both in and out of the classroom. Students will develop learning strategies alongside skill-building techniques. ASAP also seeks to better support students by promoting data-driven approaches to student success across the university. The office is located in the Student Services Building, Room 200. Appointments can be made through the ASAP website (uah.edu/asap (<https://www.uah.edu/asap/>)) or by calling 256-824-2727.

College Academic Support Centers

College of Arts, Humanities, and Social Sciences

The Academic Advisors for the College of Arts, Humanities, and Social Sciences are Joshua Riddle, Wilson Lester, and Jenny Russell-Clifton, and are located in Morton Hall 131. To schedule an appointment or learn about their services, please click here (https://uah.co1.qualtrics.com/jfe/form/SV_0jEhTe5RFhxAeGi/).

College of Business

The office of Academic Assistance is located in the Business Administration Building, Room 102. Advisement may be scheduled by phone at 256.824.6787 or by email at undergradbusiness@uah.edu.

College of Education

The Undergraduate Academic Advisors for the College of Education are Mrs. Liz Redding and Mrs. Martha Dobbs. Mrs. Redding advises students in Kinesiology Department programs and is located in Wilson Hall, Room 329D. Mrs. Dobbs advises students in the Department of Curriculum & Instruction, primarily those in teacher preparation programs, and is located on the third floor of Roberts Hall, Room 302.

College of Engineering

The Center for Undergraduate Engineering Education is located in the Engineering Building, Room 157. The center offers comprehensive advising services to help students recognize and understand the requirements for their chosen college degree, learn the skills needed for academic success, and how to access and apply the variety of resources and services available to them. The center can be contacted at either engineering@uah.edu or 256.824.6877.

College of Nursing

Student advisement is conducted in the College of Nursing's Office of Undergraduate Programs, located in the Nursing Building, Suite 227. The office offers comprehensive advising services and answers questions about nursing admission requirements. Appointments can be set up by calling the Office of Undergraduate Nursing Programs at 256-824-6742 or by online scheduling at <https://www.uah.edu/nursing/degree-programs/bsn> (<https://www.uah.edu/nursing/degree-programs/bsn/>) or <https://www.uah.edu/nursing/degree-programs/rn-bsn> (<https://www.uah.edu/nursing/degree-programs/rn-bsn/>).

College of Professional Studies

The College of Professional Studies Academic Advising and Exploratory Academic Advising is located in Wilson Hall, Suite 143. Appointments can be made by calling 256-824-6673 or emailing cpsadvising@uah.edu.

College of Science

The College of Science Advising team includes Jennifer Bradley, Michelle Brightwell, Jenny Harvard, Kristin Hawthorne, Morgan Lewis, and Matthew Wilson. Our team of advisors provides each College of Science undergraduate student with personalized information related to their degree. The science advisors help students reach graduation by assisting them in course selection, course sequencing/planning, and registration. In addition, advisors support students by guiding them toward university resources such as the Student Success Center, Academic Support Advocacy Program (ASAP), Office of Undergraduate Research, Career Services, Office of Financial aid, and Campus Life to make their college career a success. Find us here: <https://www.uah.edu/science/academic-advising> (<https://www.uah.edu/science/academic-advising/>) and @ science.advising@uah.edu (science.advising@uah.edu).

Honors College

Honors advising is provided for Honors College undergraduate students in conjunction with departmental advising. The advising offices are located in Franz Franz Hall, Room 113. You can click here to schedule an appointment (<https://uahhonorscollege.youcanbook.me/service/jsps/cal.jsp?cal=JMN4b6V8JrtFuATKhzSj&ini=1621607662142&team=Nicole+Hughes&jumpDate=2021-05-28>) or email honors@uah.edu to connect with the Honors College Academic Advisor, Nicole Hughes, and/or the Peer Advisors. To schedule an appointment with the Fellowship and Graduate School Advisor, Jennifer Staton, email statonj@uah.edu. The Honors College also offers Honors Tutors. Students are able to book an appointment (<https://www.uah.edu/honors/current-students/honors-tutors/>) with the Honors Tutors for tutoring in a variety of courses, both Honors and non-Honors. The Honors Tutors also host group study sessions in Calculus.

UAH Police Department

The UAH Police Department works diligently to promote the security of our campus community through a variety of services and programs, which are conducive to the support of the University's learning environment.

More information on UAH security policies and procedures can be found in the University's Annual Security Report (https://www.uah.edu/images/administrative/police/safety/annual_security_report.pdf).

Security Tips

Get to know these valuable tips (<https://www.uah.edu/police/programs/safety-tips/>) that will help ensure your security on, and off, the UAH campus.

Reporting Crime

It is the policy of the university to strongly encourage students, employees, and visitors to UAH to promptly contact the university police, or if they wish, the Huntsville Police Department, about any criminal activities, accidents, or medical emergencies occurring on campus. Reporting a crime does not mean an individual must take legal action – it may, however, help law enforcement stop further incidents as well as help them keep the community informed about criminal activity.

To make a report in person, an individual should go to the UAH Police Department, which is located in the Intermodal Facility, 501 John Wright Drive (Parking Garage). To make a report by phone, call 256-824-6596 and describe the situation to the communications operator. In emergency situations, including fires and medical emergencies, call 911 or UAHPD at 256-824-6911. All 911 calls made from campus phones go directly to the UAH Police Department; all cell phone 911 calls are routed to UAHPD through the Madison County 911 center.

Campus Security Authorities

A person may also report a crime to certain individuals who have been designated as a Campus Security Authority (CSA). These individuals include, but are not limited to, the Director of Housing and senior Housing Office staff members, Residence Directors, the Dean of Students, the Director of Student Ethics and Education, the Director of Student Activities, the Athletic Director or any coach, staff in the Student Health Center, the Vice President of Diversity, or other UAH officials with significant responsibility for student and campus activities. Upon request, the CSA may assist the reporting individual in contacting the University Police about an incident.

In some cases, the reporting person may wish to remain anonymous or a victim may not want to involve the police. The CSA will record the information on a special form that will be forwarded to the Chief of Police. The Chief will evaluate the information and determine if other actions required under Federal law may have to be taken. The reporting person will likely not be contacted. All such incident reports will help the University take steps to make the campus safer. They will be used, in particular, to determine whether there is a pattern of crime involving a particular location, offender, or method; to provide the basis for alerting the campus community about crimes posing a danger to students or employees; and to compile the crime statistics included in this annual report.

KNOW WHAT TO DO: Emergency Preparedness at UAH

As an on-going effort, UAH has developed an Emergency Management Plan. Part of the plan is to inform our community of how to respond in the event of an emergency. Knowing what to do in an emergency situation will help keep the UAH community safe and secure. Each department/unit should also have an up-to-date Building Emergency Action Plan that includes information on assembly areas, shelter locations, hazardous materials storage, and building-specific emergency contacts. We encourage you to familiarize yourself with the Emergency Action Guidebook (http://www.uah.edu/images/administrative/facilities/oep/emergency_guidebook.pdf) and the building-specific emergency action plan(s) for each building you regularly visit.

Information Technology Services

Campus Technologies

The Office of Information Technology (<http://oit.uah.edu>) (OIT) offers technological expertise and service to UAH faculty, students, and staff. OIT maintains many online resources such as Banner, UAH's enterprise resource program. Banner components, such as those used by the Bursar's and the Registrar's office, are integral to the success of UAH. Other online resources maintained by OIT include:

- A portal to access most UAH online resources - myUAH (<http://my.uah.edu>)
- G Suite for Education (<http://google.uah.edu/>) - Google Mail, Calendar, Drive, and more
- A self-service password reset site, <http://reset.uah.edu>

- The OIT User Services portal (<http://oitportal.uah.edu>) where you can change your known password, import your course schedule onto your Google calendar, and more

Enhanced Learning

The Enhanced Teaching and Learning Group (ETL) includes Online Learning (<https://www.uah.edu/online-learning/>), Academic Technologies, and the Collaborative Learning Center. The Online Learning team offers instructional design, online course development training, and more. The Academic Technologies team supports the following and more:

- Canvas (<http://canvas.uah.edu>), UAH's online learning management system
- Panopto, UAH's Lecture Capture solution
- TurningPoint/Clickers (from Turning Technologies), an engagement and assessment solution for real-time student participation during classes
- Classroom Technology, including audio-visual equipment
- Video Conferencing Services
- Qualtrics, UAH's online survey solution
- Respondus LockDown Browser and Respondus Monitor

Technical Support

The OIT Help Desk is available for remote support 24/7/365 at 256-824-3333. Between 9 and 5 on weekdays that the university is open, the Help Desk is available via email at helpdesk@uah.edu or at the Salmon Library.

Classroom Technology Support is available 7:30 am - 7:30 pm Monday through Friday at (256) 692-0588. Support for Canvas and related technologies is available 24/7 by calling 1-844-219-5802 (students) or 1-833-519-8478 (faculty). Support via chat is available from within Canvas (click "Help" > "Chat with Canvas Support").

With so many online resources, it is important for each student to know his or her Charger ID and password (<https://www.uah.edu/oit/services/charger-id-and-password/>). OIT offers account management support.

Networks and Telecommunications

Wireless network access is available for all students via the eduroam wireless network. Campus residents may take advantage of wired network access and telecommunications access from OIT.

Desktop Software

OIT makes a number of software programs available at no cost for faculty, staff, and students via Chargerware at <http://chargerware.uah.edu> (<http://chargerware.uah.edu/>).

Students have access to state-of-the-art computer labs in each college as well as open labs in the Salmon Library. The computers in these labs offer software products not distributed to students via Chargerware.

Campus Printing

Students, as well as visitors and guests, have access to the printing kiosks located around campus. Click [here](#) for more information.

Student Facilities and Services

University Housing

The University of Alabama in Huntsville (UAH) offers a variety of housing facilities to meet the needs of its diverse student population. Please visit www.uah.edu/housing (<https://www.uah.edu/housing/>) for the most current information for housing options, requirements, policies, and residence hall amenities/services. All first-year freshmen students who apply for University housing will be assigned to either Central Campus Residence Hall, Frank Franz Hall, or North Campus residence Hall. All first year full-time undergraduate students with a permanent legal residence beyond a 30 mile radius from campus are required to live in the campus residence halls. Upper-class residents may apply to Beville Center, Charger Village Addition, Charger Village Original, and Southeast Campus Housing. Upperclassmen assignments are based on availability of space off of a created waitlist by application date.

All residence halls are convenient to the Salmon Library, the University Fitness Center, Charger Union, and all classroom facilities. In each residence hall, suites are furnished with a sofa, accent tables, and lounge chairs. The suite will have a mini kitchen that includes a refrigerator and microwave.

Every bedroom has a loftable extra-long twin bed, a wardrobe or closet, a chest of drawers, a desk, and chair. All Housing and Residence Life suites have digital cable (Xfinity On Campus), Wifi, and wired internet access. Finally, a laundry room, study lounges, and a kitchen can be found.

All housing facilities have a full-time, live-in Resident Director and Resident Assistants (RA) who live on each floor. RA's develop activities and programs, provide assistance to student residents, serve as liaisons to other University departments and help create a residential community that contributes to effective student learning, personal and social growth, and individual responsibility.

Any admitted student to UAH is eligible for an assignment in University Housing. Housing and Residence Life housing contracts can be found on their main page at <http://www.uah.edu/housing> (<https://www.uah.edu/housing/>). Room assignments are contingent upon confirmation of admission. Priority for assignment is based upon classification by the University (first-year student, transfer student, etc.), the date of receipt of the application, commitment fee, and availability of housing.

All single students sign an academic year room contract (Fall and Spring). Housing charges are due when tuition is due each academic semester. Summer housing for single students is available in a residence hall under a separate contract.

Current rates and additional information are all available from the:

Housing Office
601 John Wright Drive
256.824.6108

or online at <http://www.uah.edu/housing> (<https://www.uah.edu/housing/>). Individual and group tours of UAH Housing and Residence Life may be arranged by appointment through the Admissions Office.

University Food Service

Through the delivery of an exceptional food program, the UAH community is provided with options, quality, and convenience. Finding your favorite foods on campus is a snap. We are proud to offer a dining program, complete with signature brands and menu selections that entail just about every item you can imagine. Please visit www.uah.edu/dining (<http://www.uah.edu/dining/>) for available dining locations, menus, meal plan hours, and meal plan options.

The Charger Cafe is an "All You Care To Eat" dining area located in the Conference Training Center (CTC). The menu program is known as Ultimate Dining and features rotating formats of food presentation: Classics, Pizzarette, The Grille, International Station, Soup'n Salad, Made to Order Deli Station, Vegetarian Selections, Gluten Free Bar, Desserts and Beverages. A spacious dining room with an adjacent patio is available for all guests.

In addition to the Charger Cafe, the CTC also houses 'We Proudly Brew Starbucks Coffee'. A second Starbucks Coffee location offers a coffee shop atmosphere and menu in the Salmon Library. This is the ideal place for meetings, grab-and-go lunches, or afternoon coffee breaks. Freshly brewed gourmet coffees, teas, fresh baked gourmet muffins and cookies, salads, and sandwiches provide a variety of choices for all to enjoy.

Charger Village (CGV) houses Chick-fil-A, Papa John's Pizza, Burrito Bowl, and a convenience store (The C-Store) featuring Boars Head Deli. A nice dining area and patio are available to meet with friends for a meal or to enjoy the view while studying.

Charger Union (CGU) is the home to Dunkin' Donuts and Mein Bowl. There are plenty of places in and around the building to enjoy a cup of coffee or meet friends to indulge in the best wings on campus.

Technology Hall is the home to Blue's Tech Hall mini convenience store featuring Simply-To-Go quick food options such as sandwiches, salads, fresh fruit, and more! The store also offers assorted candy bars, energy drinks, or bottled sodas or water.

UAH Dining Services also provides catering services campus-wide for any student or campus group. Visit www.uah.edu/bevill-center/catering (<https://www.uah.edu/bevill-center/catering/>) to view our menu options as well as limited-time offers for special events.

The Charger Union

The Charger Union (CGU) serves as the heart of the UAH community. It provides a comfortable, safe, and welcoming environment for student life and engagement. The Charger Union supports the personal and professional development of students, offering formal and informal spaces to attend programs and access to high-quality services that enhance the UAH educational mission.

The Charger Union offers meeting rooms, dining (Mein Bowl and Dunkin Donuts) and snack facilities, lounges, two game rooms (one traditional game room with pool tables and ping pong, and an e-gaming lounge), an information desk, student organization spaces, a theater, and the University Bookstore. Also located in the CGU are the offices of the Dean of Students, the Student Government Association, Association for Campus Entertainment, Student Life, Veterans and Military Affairs, and Charger Union Administrative offices.

M. Louis Salmon Library

333 Salmon Library
Telephone: 256.824.6540
Email: library@email.uah.edu

Director: David Moore

The M. Louis Salmon Library supports the information, instructional, and research needs of faculty, staff, students, and the surrounding community. It is housed in a 105,000 square foot facility which includes an InfoArcade, five general-purpose laboratories, and a 75-seat lecture hall. It also houses the Faculty Resource Center (FRC) for the University. Over 250 workstations are supported in the facility. There is also a coffee shop on the ground floor with a large area for collaborative study, complete with comfortable seating and whiteboards.

The Library supports the academic and research programs of the University. It has a collection of over 350,000 print volumes, a selective collection of over 500,000 United States government publications, and over 600,000 materials in microform, and manuscript collections. In addition to books and microform materials, the Library offers a broad selection of books, journals, newspapers, and other serials in electronic form. Approximately 67,000 online paid periodical titles, over 65,000 electronic books and over 350 databases can be accessed both on and off-campus via the Library website at <http://lib.uah.edu> (<http://www.lib.uah.edu>). In addition, the University Archives/Special Collections offer a number of unique collections, including the papers of former Congressman Robert Jones, the personal Library of Willy Ley, the architectural research collection of Harvie P. Jones, and several space-related collections involving such projects as the Saturn V rocket, Skylab and Apollo-Soyuz.

For students in science and engineering and technology, research at UAH is supported by the Redstone Scientific Information Center (RSIC), located five miles from campus. RSIC was developed to support the wide-ranging research interests of NASA and the United States Army Missile Command and is one of the finest technical libraries in the Southeast. UAH subscribes to numerous full-text and bibliographical databases each of which supports specific colleges, including Arts, Humanities, and Social Sciences; Business; Education; Engineering; Nursing; Professional and Continuing Studies; and Science.

UAH subscribes to numerous full-text databases each of which supports specific colleges including: Arts, Humanities, and Social Sciences; Business; Education; Engineering; Nursing; Professional and Continuing Studies; and Science. The Library is privileged to provide access to many major online resources including the entire Elsevier collection through Science Direct and Scopus, Springer, CINAHL, the IEEE collection through IEEEExplore, ABI/Inform, Bloomberg Terminals, Academic Search Complete, and JSTOR (Journal Storage). The Library is also a member of several consortia that provide access to research materials not owned by libraries in north Alabama. Its membership in the Online Computer Library Center (OCLC) and the Network of Alabama Academic Libraries (NAAL) facilitates rapid document delivery/interlibrary loan service to faculty and students without charge.

Reference services are provided by reference librarians who are able to assist students in finding information in-person, by email, phone, text message, chat, or Twitter. Group Library instruction sessions are provided to teach students how to locate, manage, and evaluate the information they need for class projects and papers. Other Library services include wireless access, federated searching across databases (EBSCO Discovery Service OneSearch), instant linking to the article level in most databases (LinkSource), Turnitin.com training (plagiarism), group study rooms, PC and Mac computers, a scanner workstation, a digital audio/video area, and special computer accommodations for users with disabilities. Printing is available in the InfoArcade and labs.

Loan Periods

Undergraduates may borrow materials for four weeks; graduate students for 90 days. Overdue fines accrue at the rate of twenty-five cents per day. All fines must be paid before registration for the following semester.

Contact Information

For additional information about the Library, inquire at the User Services Desk, 256.824.6530, the Reference Desk, 256.824.6529, Interlibrary Loan, 256.824.6124, Twitter @uahEref, SMS Text to 256.824.2368, Email at erefq@uah.edu. The Library home page is: <http://www.lib.uah.edu>.

Student Identification Cards

As your official student identification, the Charger Card gives you access to campus facilities and services and allows you to make purchases at participating locations.

Your Charger Card may be used for access to or purchases in:

- Food Service Venues
- Barnes and Noble's On-Campus Bookstore
- University Fitness Center
- Residence Halls
- Salmon Library
- Student Health Services
- Campus Entertainment and Athletic Events
- Computer Labs and Printers
- Copy and Laundry Machines

The Charger Card offers four (4) types of accounts:

- Meal plans
- Charger Bucks
- Dining Dollars
- Flex

Deposits by cash, check or credit card are accepted in UAH's Cashier's Office.

Meeting Spaces

Meeting Rooms

The Charger Union has meeting rooms designed for multipurpose functions. The rooms can accommodate meetings of a variety of sizes. The Center has a large number of tables, chairs, portable stages, and audiovisual equipment, and can assist in designing set-up to make any conference or meeting a success.

Lounges

Spacious lounges, designed as a place to relax and meet friends, are equipped with comfortable furniture, tables and chairs for small group meetings, and plenty of places to charge your favorite electronic devices.

Student Support Services

Dean of Students

Student Affairs at UAH creates opportunities for students to engage in a diverse community of learners characterized by a supportive campus environment that encourages individual growth and development. This mission is accomplished through comprehensive programs and services focused on student learning and success. Through the Dean of Students office, the interpretation and administration of the Code of Student Conduct takes place. The Code of Student Conduct protects students' rights and assists students in their awareness of their obligations and responsibilities in being part of the University community.

Counseling Center

The Counseling Center, under the direction of the Dean of Students, at UAH provides specialized professional services designed to assist students in their academic, personal, and social development. Many students encounter personal difficulties that affect the course of their collegiate experience. The Counseling Center provides short-term therapy to help students cope with stress and/or learn new skills. Counseling services are available to all students currently enrolled in 3 or more credits at UAH. The staff is committed to meeting the needs of individuals from diverse backgrounds. Services are confidential and in accordance with the ethical guidelines of the American Psychological Association. Information from counseling sessions does not go on a student's academic record and is not released to any other individuals (on campus or off) without the student's written permission—except in rare situations as mandated by law. Students come in for a variety of concerns such as relationships, self-esteem, time management, anxiety, family concerns, depression, stress management, and many other concerns. See our webpage at <https://www.uah.edu/counseling-center> (<https://www.uah.edu/counseling-center/>) for more information. To schedule an appointment, contact the Counseling Center at 256.824.6203.

Disability Support Services

Disability Support Services (DSS) is committed to ensuring access to educational opportunity for all qualified students with disabilities. Any student who has a documented condition that substantially limits his or her learning activities can request coordination of appropriate academic support services. DSS collaborates with students, faculty, and staff to ensure appropriate services are provided to students registered with our office.

Students must self-identify to be eligible for accommodations and other disability services on campus. However, the student can choose whether or not to register for services. Disability support services are provided in accordance with federal law. To be eligible for services, students must provide documentation of disability from an appropriate practitioner. See our webpage at <https://www.uah.edu/dss> (<https://www.uah.edu/dss/>) or contact DSS for more information. To schedule an appointment contact our office at 256.824.1997 or come by Wilson Hall 128.

Office of International Services

The Office of International Services (OIS) prepares students, faculty and staff for success in today's globally interconnected world through international study, research, teaching, service, and experience and through opportunities for intercultural engagement that foster strengthened awareness and understanding among people of different cultures. The purpose of OIS is to promote campus and community internationalization and to provide central administrative support for a wide-ranging network of international initiatives. Through the Office of International Student & Scholar Services, the Intensive Language & Culture Program, and the Office of International Programs, the OIS coordinates programs and services that extend the university to our local and global communities. The OIS is located in the Student Services Building, Room 218; phone 256.824.6055.

Undergraduate Minority Mentoring Program

The Office of Undergraduate Minority Student Mentoring at UAH fosters student success through personal mentoring and leadership development for underrepresented students which will increase opportunities for student engagement across the campus community. The peer mentoring relationship

is designed to foster a network of support for first year students of African-American and Hispanic descent at UAH. Mentors serve as peer support personnel for these freshmen (Mentees) and share program goals and responsibilities aimed at ensuring the retention of these particular student groups. This office is located in Charger Union 201; phone 256.824.2775.

Student Health Services

The services of the Student Health Center are available to students enrolled for the current semester. Services available include treatment of illnesses and injuries, preventive health care, lab testing, immunizations and health counseling. There is a nominal fee for an office visit with additional minimum charges for laboratory testing, immunizations, and medications. The Student Health Center is located in Wilson Hall 325. The center is open Monday through Friday 8:15 a.m. – 5:00 p.m. For more information call 256.824.6775 or visit our website <http://uah.edu/shc> (<http://www.uah.edu/shc/>).

Tuberculosis Screening and Immunization Requirements

Immunization Requirements

The University of Alabama in Huntsville requires all students born after 1956 to have had 2 doses of measles (rubeola) vaccine. One dose must have been a Measles, Mumps, Rubella (MMR) vaccine. Students ages 30 and older may submit evidence of one dose of MMR if the dose was received after 1980. A copy of a lab report showing proof of immunity to measles (rubeola), mumps, and rubella may be submitted in lieu of the vaccine.

A meningitis vaccination within the past 5 years is required for all first time freshman and all students living in on-campus residence halls.

Tuberculosis Screening

Domestic students are required to complete a Tuberculosis Screening form. Tuberculosis testing may be required for domestic students based upon the information provided on the screening form.

International students are required to have a Tuberculosis test. The test must be administered in the United States within 12 months of the student's most recent arrival to campus. TB screening tests are administered upon your arrival to campus at the Student Health Center.

Documentation Requirements

All new students admitted to The University of Alabama in Huntsville must provide a completed Tuberculosis Screening and Immunization Requirements form which is signed by a physician or authorized individual. The physician's license number or clinic stamp must also be recorded on the form for verification purposes. The form and instructions for completion can be found at the Student Health Center website at www.uah.edu/shc (<http://www.uah.edu/shc/>). Forms, along with any necessary attachments, should be uploaded to the Student Health Patient Portal (<https://uahportal.pointnclick.com>) submitted to:

The University of Alabama in Huntsville
Student Health Center
Wilson Hall 325
301 Sparkman Drive
Huntsville, AL 35899
256.824.6775
256.824.6722 (Fax)
immunizations@uah.edu

Please note: The requirements noted above are for new students being admitted to The University of Alabama in Huntsville. Individual colleges, e.g. College of Nursing, may have additional immunization requirements.

Veterans Affairs

The Office of Veteran Student Services works to develop and implement a variety of programs to provide student support services focused on the special needs of today's military veterans, service members, dependents, and survivors. The office, located on the second floor of the Charger Union in the Dean of Students suite (Room 223), offers a comprehensive educational benefits counseling program to help students maximize VA educational benefits. A variety of programs are offered to facilitate the transition to school and to help support our students by advocating for the needs of our veterans, service members, dependents, and survivors. The office offers Veteran Work Study positions for eligible students.

For questions about tuition and fees for Veterans, please consult the UAH Tuition Fee Guidelines (<http://catalog.uah.edu/undergrad/admissions/residency/>) page.

For students receiving VA education benefits, any complaint against the university should be routed through the VA GI Bill® Feedback System by going to the following link: <http://www.benefits.va.gov/GIBILL/Feedback.asp>. The VA will then follow up through the appropriate channels to investigate the complaint and resolve it satisfactorily.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill> (<https://benefits.va.gov/gibill/>). (<https://benefits.va.gov/gibill/>)

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