2010

2010-2011 Catalog

University of Alabama in Huntsville

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# Academic Calendars

**Academic Calendar 2009/2010**

*(Prepared April 2008 - All dates tentative and subject to change without prior notice.)*

## Fall Semester 2009

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 17</td>
<td>Faculty Convocation/New Faculty Orientation</td>
</tr>
<tr>
<td>Aug 18</td>
<td>Late Registration</td>
</tr>
<tr>
<td>Aug 15</td>
<td>First Saturday Class</td>
</tr>
<tr>
<td>Aug 19</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>Sep 7</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>Oct 8 – 10</td>
<td>Fall Break</td>
</tr>
<tr>
<td>Nov 25</td>
<td>No Classes</td>
</tr>
<tr>
<td>Nov 26 – 28</td>
<td>Thanksgiving Holidays</td>
</tr>
<tr>
<td>Nov 30</td>
<td>Last MWF class</td>
</tr>
<tr>
<td>Nov 30</td>
<td>Last MW class</td>
</tr>
<tr>
<td>Dec 1</td>
<td>Last TR class</td>
</tr>
<tr>
<td>Dec 1</td>
<td>Last Tuesday only class/final exam</td>
</tr>
<tr>
<td>Dec 2</td>
<td>Last Wednesday only class/final exam</td>
</tr>
<tr>
<td>Dec 2</td>
<td>Study Day</td>
</tr>
<tr>
<td>Dec 3 – 9</td>
<td>Final Examinations</td>
</tr>
<tr>
<td>Dec 5</td>
<td>Last Saturday class/final exam</td>
</tr>
<tr>
<td>Dec 7</td>
<td>Last Monday only class/final exam</td>
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<tr>
<td>Date</td>
<td>Event</td>
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<td>--------------------------------------------</td>
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<tr>
<td>Dec 10</td>
<td>Last Thursday only class/final exam</td>
</tr>
<tr>
<td>December 18 – 19</td>
<td>Fall Commencement</td>
</tr>
<tr>
<td>December 24 – 31</td>
<td>Winter Break – No Classes</td>
</tr>
<tr>
<td><strong>Spring Semester 2010</strong></td>
<td></td>
</tr>
<tr>
<td>January 1</td>
<td>New Year’s Day Holiday</td>
</tr>
<tr>
<td>January 8</td>
<td>Late Registration</td>
</tr>
<tr>
<td>January 11</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>January 16</td>
<td>First Saturday class</td>
</tr>
<tr>
<td>January 18</td>
<td>MLK Jr. Holiday</td>
</tr>
<tr>
<td>March 15 – 20</td>
<td>Spring Break</td>
</tr>
<tr>
<td>March 19</td>
<td>Staff Spring Break Holiday</td>
</tr>
<tr>
<td>April 6</td>
<td>Honors Day – No Classes</td>
</tr>
<tr>
<td>April 30</td>
<td>Last MWF class</td>
</tr>
<tr>
<td>May 3</td>
<td>Last MW class</td>
</tr>
<tr>
<td>May 4</td>
<td>Last TR class</td>
</tr>
<tr>
<td>May 5</td>
<td>Last Wednesday only class/final exam</td>
</tr>
<tr>
<td>May 5</td>
<td>Study Day/Weather Day</td>
</tr>
<tr>
<td>May 6 – May 12</td>
<td>Final Examinations</td>
</tr>
<tr>
<td>May 6</td>
<td>Last Thursday only class/final exam</td>
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<tr>
<td>May 8</td>
<td>Last Saturday only class/final exam</td>
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<tr>
<td>May 10</td>
<td>Last Monday only class/final exam</td>
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<tr>
<td>May 11</td>
<td>Last Tuesday only class/final exam</td>
</tr>
<tr>
<td>May 14 – 15</td>
<td>Commencement</td>
</tr>
</tbody>
</table>
Summer Semester 2010

May 21  Late Registration
May 24  Classes Begin – 10 week
May 24  Classes Begin – 1st 5 week
May 31  Memorial Day Holiday
June 22  Last class – 1st 5 week
June 23  Study Day – 1st 5 week
June 24 – 25  Final Examinations – 1st 5 week
June 28  Classes Begin – 2nd 5 week
July 5  Independence Day Holiday
July 22  Last TR class – 10 week
July 26  Last MWF class – 10 week
July 26  Last MW class – 10 week
July 27  Study Day – 10 week
July 27  Last class – 2nd 5 week
July 28  Study Day – 2nd 5 week
July 28 – 30  Final Examinations – 10 week
July 29 – 30  Final Examinations – 2nd 5 wee

Academic Calendar 2010-2011

Fall Semester 2010

August 13  Faculty Convocation/New Faculty Orientation
August 13  Late Registration
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 14</td>
<td>First Saturday Class</td>
</tr>
<tr>
<td>August 16</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>September 6</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>October 7 - 8</td>
<td>Fall Break</td>
</tr>
<tr>
<td>November 22</td>
<td>Last MWF class</td>
</tr>
<tr>
<td>November 22</td>
<td>Last M/W class</td>
</tr>
<tr>
<td>November 23</td>
<td>Last TR class</td>
</tr>
<tr>
<td>November 23</td>
<td>Last Tuesday only class/final exam</td>
</tr>
<tr>
<td>November 24</td>
<td>No Classes</td>
</tr>
<tr>
<td>November 25 – 26</td>
<td>Thanksgiving Holidays</td>
</tr>
<tr>
<td>November 27</td>
<td>No Classes</td>
</tr>
<tr>
<td>November 29</td>
<td>Last Monday only class/final exam</td>
</tr>
<tr>
<td>December 1</td>
<td>Last Monday only class/final exam</td>
</tr>
<tr>
<td>December 2*</td>
<td>Last Thursday only class/final exam</td>
</tr>
<tr>
<td>Nov 29 - Dec 4</td>
<td>Final Examinations</td>
</tr>
<tr>
<td>December 3 – 4</td>
<td>Fall Commencement</td>
</tr>
<tr>
<td>December 24 – 31</td>
<td>Winter Break – No Classes</td>
</tr>
</tbody>
</table>

* - SHORT ONE SESSION

Spring Semester 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>January 1</td>
<td>New Year’s Holiday</td>
</tr>
<tr>
<td>January 7</td>
<td>Late Registration</td>
</tr>
<tr>
<td>January 10</td>
<td>Classes Begin</td>
</tr>
</tbody>
</table>
January 15  First Saturday class
January 17  MLK Jr. Holiday
March 21–26  Spring Break
March 25  Staff Spring Break Holiday
April 5  Honors Day – No Classes
April 22  Last MWF class
April 25  Last MW class
April 26  Last TR class
April 27  Last Wednesday only class/final exam
April 27  Study Day/Weather Day
April 28 – May 4  Final Examinations
April 28  Last Thursday only class/final exam
April 30  Last Saturday only class/final exam
May 2  Last Monday only class/final exam
May 3  Last Tuesday only class/final exam
May 6–7  Commencement

Summer 2011

May 27  Late Registration
May 30  Memorial Day Holiday
May 31  Classes Begin – 10 week
May 31  Classes Begin – 1st 5 week
June 28  Last class – 1st 5 week
June 29  Study Day – 1st 5 week
June 30 – July 1  Final Examinations – 1st 5 week
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 4</td>
<td>Independence Day Holiday</td>
</tr>
<tr>
<td>July 5</td>
<td>Classes Begin – 2nd 5 week</td>
</tr>
<tr>
<td>July 28</td>
<td>Last TR class – 10 week</td>
</tr>
<tr>
<td>August 1</td>
<td>Last MWF class – 10 week</td>
</tr>
<tr>
<td>August 1*</td>
<td>Last MW class – 10 week</td>
</tr>
<tr>
<td>August 2</td>
<td>Study Day – 10 week</td>
</tr>
<tr>
<td>August 2</td>
<td>Last class – 2nd 5 week</td>
</tr>
<tr>
<td>August 3</td>
<td>Study Day – 2nd 5 week</td>
</tr>
<tr>
<td>August 3 – 5</td>
<td>Final Examinations – 10 week</td>
</tr>
<tr>
<td>August 4 – 5</td>
<td>Final Examinations – 2nd 5 week</td>
</tr>
</tbody>
</table>

* MW classes short one session due to two Monday holidays

Updated Sp/2010 2-16-10

**Catalog Home**

The University of Alabama in Huntsville is committed to equal opportunity in employment and education. Pursuant to that commitment, the University does not unlawfully discriminate in any program or activity on the basis of race, color, national origin, religion, sex, pregnancy, sexual orientation, age, disability, citizenship, genetic information, or status as a Vietnam-era, special disabled, or other eligible veteran.

Although this catalog intends to reflect currently any policies or rules of The Board of Trustees of The University of Alabama referred to or incorporated herein, users are cautioned that changes or additions to such policies and rules, including those relating to tuition and/or fees, may have become effective since the publication of this material. In the event of such a conflict, the current statements of Board policy contained in the official minutes and manual of rules, by-laws, and guidelines shall prevail.

The University of Alabama in Huntsville also reserves the right in its sole discretion and at any time to modify any policy, procedure, benefit, or program described or set forth in this catalog and to make any other changes it deems necessary and appropriate. Students enrolling in the University are subject to current policies and rules as contained herein and as subsequently stated or modified by official institutional action.

**Equal Opportunity and Affirmative Action Policy**

The University of Alabama in Huntsville is committed to making employment opportunities available to qualified applicants and employees and does not unlawfully discriminate on the basis of race, color, national origin, religion, sex (including marital or family status), pregnancy, sexual orientation, age, disability, citizenship, genetic information, or status as a Vietnam-era, special disabled, or other eligible veteran. All personnel actions and programs, including recruitment; selection; assignment; classification; promotion; demotion; transfer; layoff and recall; termination; determination of wages, conditions, and benefits of employment; etc; shall be administered in accordance with this
equal opportunity policy. It is the intent of the University that, in all aspects of employment, individuals shall be treated without unlawful discrimination on any of the foregoing bases, and that employment decisions shall instead be premised upon a person’s ability, experience, and other job-related qualifications.

Additionally, the University is an affirmative action employer of women, minorities, individuals with a disability, and Vietnam-era, special disabled, and other eligible veterans. It is committed to making sustained, diligent efforts to identify and consider such individuals for employment and for opportunities arising during employment.

The University is also committed to equal educational opportunity for all qualified applicants and students and does not unlawfully discriminate in its educational policies, practices, programs, or activities on the basis of race, color, national origin, religion, sex (including marital or parental status), pregnancy, sexual orientation, age, disability, citizenship, genetic information, or veteran status. Its admissions, financial aid, athletics, student services, and other programs are administered in accordance with this policy.

Discrimination, under this policy, shall be understood to include harassment carried out through unwelcome verbal or physical conduct directed at one or more individuals on the basis of race, color, national origin, religion, sex, age, national origin, or disability. To be unlawful in an employment context, enduring such harassment must become a condition of continued employment or the conduct must be sufficiently severe or pervasive to create a working environment that is intimidating, hostile, or abusive. Offensive jokes, objects, or pictures; slurs and epithets; physical threats and assaults; intimidation; insults; etc., are among the actions that may constitute harassment. Potential violations of this policy will be evaluated from the perspective of a reasonable person in the victim’s situation, taking into account all the circumstances.

With regard to students, such harassment is unlawful when it unreasonably interferes with or limits the student’s ability to participate in or benefit from services, activities, or privileges provided by the educational institution. A violation also occurs when, through such harassment, an educational institution has created or is responsible for a hostile learning environment so severe, pervasive, or persistent that it adversely affects a student’s ability to participate in or benefit from the institution’s educational program.

Sexual harassment, in addition and more specifically, includes sexual advances, requests for sexual favors, and other verbal or physical conduct that is unwelcome and is directed toward a person on the basis of that person’s sex. It may take one of two generally recognized forms. First, the employee’s or student’s submission to such conduct is made a condition, explicitly or implicitly, of access to an employment or academic opportunity; or the employee’s or student’s submission to or rejection of such conduct is used as the basis for employment or academic decisions affecting the individual, such as, for example, a salary or grade determination. This kind of harassment is sometimes referred to as “quid pro quo” (“something for something”) or, alternatively, harassment that results in “tangible employment action.” Secondly, hostile environment harassment occurs when the conduct is so severe, persistent, or pervasive that it unreasonably interferes with an individual’s performance as an employee or student or creates an intimidating, hostile, or offensive working/learning environment. Examples of actions that might be deemed to create a hostile environment based on sex could include flirtation, vulgar language, sexually suggestive jokes, touching of a sexual nature, displaying or distributing sexually explicit materials, etc.

The University also prohibits retaliation against employees or students who engage in protected activities. Protected activities include making, in good faith, a complaint of discrimination or harassment, assisting others in making a complaint, otherwise opposing such acts or practices, or participating in an investigation, proceeding, or lawsuit. Threats, intimidation, reprisals, and/or other adverse actions related to ones employment or academic status constitute retaliation if they may dissuade a reasonable employee or student from exercising his/her right to complain about the discrimination or harassment.

In these respects, the University affirms its desire to create a work environment for all employees and a learning environment for all students that is fair, humane, and responsible - an environment that supports and rewards career and educational goals on the basis of such relevant factors as ability and employment or academic performance. A University student or employee who is found, under established University procedures, to have been guilty of discriminatory conduct with respect to another member of the campus community in violation of these policies will be subject to discipline, up to and including possible dismissal or expulsion, by the University.
These commitments are designed to meet nondiscrimination/affirmative action requirements imposed by the following federal and state sources of legal obligation, as amended: Title VI and VII, Civil Rights Act of 1964; Executive Order 11246; Title IX, Education Amendments of 1972; the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; the Equal Pay Act of 1963; the Age Discrimination in Employment Act of 1967; the Age Discrimination Act of 1975; the Vietnam Era Veterans’ Readjustment Assistance Act of 1974; the Immigration Reform and Control Act of 1986; the Genetic Information Nondiscrimination Act of 2008; the U.S. Constitution; contract and grant agreements with governmental agencies; the Alabama Age Discrimination Act of 1997; and the Alabama Constitution of 1901. The University’s equal opportunity policies pertaining to its employees and students include specific administrative procedures and implementing measures designed to carry out these pledges and to ensure compliance with the foregoing laws.

Inquiries or complaints concerning the application of this policy and these federal and/or state requirements should be directed to one of the following persons:

Dr. Scott Walter  
Student Equal Educational Opportunity Officer  
114 University Center  
The University of Alabama in Huntsville  
Huntsville, AL 35899 (256-824-6700)

Ms. Delois Smith  
Faculty Equal Employment Coordinator  
341 Shelbie King Hall  
The University of Alabama in Huntsville  
Huntsville, AL 35899 (256-824-6716)

Ms. Laurel Long  
Staff Equal Employment Coordinator  
102 Shelbie King Hall  
The University of Alabama in Huntsville  
Huntsville, AL 35899 (256-824-6545)

Grievances alleging unlawful discrimination will be resolved according to the discrimination grievance procedures set forth in the Student Handbook.

General Information

- Mission of the University of Alabama in Huntsville
- History
- Accreditation
- Facilities

Mission of the University of Alabama in Huntsville

The University of Alabama in Huntsville (UA Huntsville) is an autonomous campus of The University of Alabama System dedicated to excellence in teaching, research, and service. UA Huntsville is a key participant in one of the nation’s major international centers for advanced technological research and utilizes its position in this environment to provide unique opportunities and creative programs for students, faculty, and the community. UA Huntsville is committed to maintaining a diverse academic community of the highest quality, and to providing an environment that
facilitates intellectual, cultural, personal, and professional growth. UA Huntsville fosters leadership, creative and critical thinking, clear communication, a respect for knowledge and the pursuit of truth, and an engagement in the challenge and pleasure of a lifetime of learning. UA Huntsville, through its graduates and its programs, contributes to economic advancement, health care, cultural enrichment, and the quality of life of the region, state, and nation.

History

The University of Alabama in Huntsville (UA Huntsville) is a part of the University of Alabama System. In June 1969, the University of Alabama Board of Trustees established the University of Alabama System with three independent, autonomous campuses at Huntsville, Birmingham, and Tuscaloosa. Each campus has a separate president who reports to the Board of Trustees through the chancellor of the system.

Academic programs were initiated in Huntsville in 1950; in 1963 degree opportunities at the master’s level were provided and in 1964, at the baccalaureate level. The first master’s degree based on work begun and completed in Huntsville was awarded in 1964 and the first undergraduate degrees in 1968. Doctoral programs were initiated in physics and engineering in 1971, and the School of Nursing was established the same year. In 1974, in a component of the Alabama School of Medicine, the first full-time medical students began their core clinical experience in Huntsville. (These programs were transferred to direct UAB management in 1995.) In the two decades of the 1970s and 1980s, UA Huntsville implemented a broad range of undergraduate degree programs; established master’s programs in the liberal arts, nursing, and administrative science; initiated professional degree programs at both the graduate and undergraduate levels; and inaugurated selected Ph.D. programs in high-technology fields in the sciences and engineering.

UA Huntsville is focused to meet the specific needs of scientific and technological enterprises and the cultural and intellectual needs of a rapidly expanding region. It is UA Huntsville’s intention to be innovative, even experimental, to explore what is new, to evaluate existing programs continually, to develop and establish curricula and pedagogical techniques calculated to help students live and perform well in a complicated environment.

Accreditation

The University of Alabama in Huntsville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) to award bachelor’s, master’s, and doctoral degrees. SACS (1866 Southern Lane, Decatur, GA. 30033-4097; telephone: 404-679-4501) should be contacted only for information about UA Huntsville accreditation. Several UA Huntsville programs are accredited by their respective accrediting agencies. Academic programs in chemistry are accredited by the American Chemical Society. Eight undergraduate engineering programs (aerospace engineering option in mechanical, chemical, civil, computer, electrical, industrial and systems, optical, and mechanical) are accredited by the ABET, Inc. Both undergraduate and graduate programs in nursing are accredited by the Commission on Collegiate Nursing Education. Computer science holds accreditation from the Computing Accreditation Commission of ABET, Inc. All programs, both undergraduate and graduate, in the College of Administrative Science are accredited by the American Assembly of Collegiate Schools of Business-The Association to Advance Collegiate Schools of Business. In addition, the University of Alabama in Huntsville is an accredited institutional member of the National Association of Schools of Art and Design (NASAD) and the National Association of Schools of Music (NASM). Teacher education programs are 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, and the Department of Education at The University of Alabama in Huntsville is accredited by the National Council for Accreditation of Teacher Education (NCATE).

Facilities
The 376-acre UA Huntsville campus is situated in Cummings Research Park, which is located in northwest Huntsville. The University has 30 major buildings, all of which have been constructed since 1960. The buildings contain modern equipment and exemplify modern functional design.

Student housing consists of Frank Franz Hall, North Campus Residence Hall, Central Campus Residence Hall, and the nine-building Southeast Campus Housing Complex. Frank Franz Hall opened in fall 2002, and North Campus Residence Hall, a near replica, opened in fall 2005. Fall 2006 saw an exciting and welcome addition to University housing with the completion of five fraternity and sorority houses. These houses give a more prominent place to the organizations and provide a communal living and gathering place for their members.

Morton Hall, the oldest building on campus, houses classrooms, computer laboratories, and offices for the dean and several of the departments in the College of Liberal Arts, the Honors Program, and the Writing Center. Morton Hall is also home to Suite 106, a black box theater that operates as a venue for more experimental and avant-garde productions in an intimate setting.

Wilson Hall is currently being renovated to create updated and efficient teaching space for the Colleges of Liberal Arts, Business Administration, Nursing, the Division of Continuing Education and Instructional and Testing Services.

The Kenneth E. Johnson Research Center contains research laboratories and offices for that Center, the Alabama Solar Energy Center, the Propulsion Research Center, and the Office of Environmental Health and Safety.

Madison Hall houses the offices of Graduate Studies, Graduate Admissions, the Student Success Center, International Programs, and General College Advisement; it also accommodates Multicultural Affairs, Continuing Education and the Offices of Career Services and Cooperative Education.

Shelbie King Hall is the home of the executive administrative offices; the Offices of Human Resources, Accounting and Finance, Accounts Payable, Alumni Relations, University Advancement, University Development, University Relations, University Counsel; and the Institute for Science Education.

Von Braun Research Hall contains offices for Research Administration, offices and research laboratories for the Center for Microgravity & Materials Research, and the Center for Automation and Robotics. Additionally, it houses the University’s mainframe computer facility and the Department of Computer and Network Services.

The Engineering Building contains classrooms, computer laboratories, instructional and research laboratories, and Office of Admissions and Recruiting as well as offices for the dean and some of the engineering departments of the College of Engineering.

The Materials Science Building contains offices for Chemistry and Materials Science, classrooms, and state of the art research laboratories for programs in chemistry and materials science, as well as administrative offices for the dean of the College of Science and the dean of the School of Graduate Studies. It also has a 350-seat auditorium/lecture hall.

The Optics Building is a four-story building designed and constructed for research and graduate studies in the field of applied optics. The building contains research laboratories, classrooms, meeting rooms, and offices for the Center for Applied Optics and the Department of Physics.

The University Center houses the officers of Dean of Students, the Student Government Association, Association for Campus Entertainment, the Exponent, Admissions and Records, Student Financial Services, International Student Services, Charger Central, Student Activities, Student Health Services, the Counseling Center, Charger Card and the Bursar. The UC has facilities for dining, assemblies, meetings, dramatic presentations, and recreational activities as well as housing the University Bookstore.

The Frances C. Roberts Hall, a two-unit complex, contains classrooms, studios, and offices for the art, history, and music departments in the College of Liberal Arts. The Humanities Center is located here, and there is a large auditorium/lecture room for varied university programs.
The **Nursing Building** is a contemporary triangular structure that houses the College of Nursing. Its four levels contain administration and faculty offices, classrooms, an auditorium, laboratories and service areas, and a large and well-equipped Learning Resources Center.

The **Business Administration Building** contains classrooms, computer laboratories, and offices for the dean and the departments of the College of Administrative Science. This well-designed teaching facility also has a large auditorium/lecture hall and several student lounge areas.

**Marion Beirne Spragins Hall** has classrooms and offices for Health and Physical Education and Athletics, a gymnasium with a seating capacity of 2,800, racquetball courts, and other physical education, recreational, athletic training facilities, and the faculty/staff clinic.

The **Central Receiving Building** houses the shipping and receiving office and storage facility and the central mail room.

The **Physical Plant Building** contains offices, shops, and storage areas for the Department of Facilities and Operations’ administrative offices, custodial services, facilities maintenance, grounds management services, stockroom, and fleet services.

In addition to providing parking, the new **Intermodal Parking Facility** also houses Public Safety (campus police) and acts as a transit stop for Huntsville city buses on their routes to Madison Square Mall, Research Park, Bridge Street Towne Center, and Wal-Mart.

The **Tom Bevill Center** has 100 hotel rooms, a restaurant, offices for the U.S. Army Corps of Engineers Training Division, meeting rooms, and computer laboratories. It also has sophisticated audio-visual systems, computer networking, links to Huntsville’s super computer, and easy access to other facilities on campus and in the nearby Cummings Research Park.

The **WLRH Radio Station** facility is located on the south end of the University campus and houses public radio station WLRH-FM. The University leases the facility to the Alabama Educational Television Commission but has no involvement in the operation of the radio station.

The **Business Services Building** houses administrative offices of the Department of Business Services including Purchasing Services, Telecommunications, and the Copy Center.

**Olin B. King** Technology Hall is located on the west side of Sparkman Drive and contains offices, classrooms, specially equipped distance-learning classrooms, a 119 fixed-seating seminar room, computer classrooms and laboratories, and instructional and research laboratories for several of the departments in the College of Engineering as well as in Computer Science. It also houses the Center for Space Plasma and Aeronomic Research (CSPAR), the Propulsion Research Center, and the Information Technology & Systems Center.

The **Robert “Bud” Cramer Research Hall** which houses the National Space Science & Technology Center or NSSTC is also located on the west side of Sparkman Drive and contains offices for Atmospheric Science, research laboratories, meeting rooms, and the Global Hydrology Resource Center computer laboratory to support the extensive ongoing research between NASA, UA Huntsville, and the Universities Space Research Association. All three organizations have employees housed in the building.

The **University Fitness Center** provides facilities for student recreation and physical education activities. It contains three basketball courts, weight training area, aerobic area, cardiovascular fitness area, elevated running/walking track, swimming pool, locker rooms, offices, and support areas. The facility serves UA Huntsville students and employees as well as the general public through external memberships.

The **Shelby Center** for Science and Technology provides state-of-the-art laboratory and economic development facilities as well as teaching and resource facilities for chemistry, physics, biology, and mathematical sciences. It serves to make the campus more modern in facilities and design by helping to create a technology quadrangle that consolidates engineering, math, and science.
The M. Louis Salmon Library is housed in a 105,000 square feet facility which includes a state-of-the-art high tech wing with an Information Arcade, five computer labs including a math tutorial lab, a liberal arts lab, a nursing lab, and a Library/distance learning lab. Over 250 workstations are supported in the facility. A Media/Distance Learning support center is also housed in the Library. Customer Service and Training from Computer and Network Services relocated to the library in 2008, and 2008 also marked the addition of a new Super Teaching classroom that utilizes a multimedia classroom teaching system to promote “Learning at the Speed of Thought” as well as Jazzman’s Coffee Shop. For students in science and engineering and technology, research at UA Huntsville 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. UA Huntsville subscribes to numerous full-text and bibliographical data bases each of which supports specific colleges, including Liberal Arts, Nursing, Administrative Science, Engineering, and Science.

Admissions: Definitions, Requirements and Procedures

- First Year Students (Freshman)
- Early Start Program
- Dual Credit Program
- Transfer Students
- International Students
- Special Students Status
- UA Huntsville Resident/Non-Resident Tuition Fee Guidelines

The University of Alabama in Huntsville welcomes and encourages inquiries and applications from those interested in furthering their educations regardless of gender, culture, religion, ethnic background, age, marital status, or disability. While most new students enroll in the Fall, UA Huntsville admits new students every semester, including the summer term. Prospective students are encouraged to apply well in advance of the date of their desired entrance but no more than one year. Application forms, detailed application instructions, important deadlines and information brochures can be obtained from the Office of Admissions by calling (256) 824-2773 or 1-800-UAH-CALL. Complete admissions information and forms can be accessed on the internet at admissions.uah.edu. Applications can be submitted electronically by following the “APPLY ONLINE” link at admissions.uah.edu.

An important part of the college selection process is a campus visit. UA Huntsville welcomes visitors to the campus any day the campus is open for business. Campus tours on an individual or group basis may be arranged by calling the Office of Admissions at 256-824-2773 or by visiting admissions.uah.edu. Faculty members and academic advisors are eager to confer with prospective students to discuss their educational goals if given appropriate notice of the prospective student’s visit.

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.

**Credentials and Documentation**

Credentials and documentation required for admission vary by type of application. See the appropriate section below and the Office of Admissions website at admissions.UAH.edu/ for more specific details. Admission to the University does not guarantee admission to a specific degree program. The Colleges of Business, Nursing and Engineering, and programs in Teacher Education and Music may have additional requirements. See the appropriate college or program section for more details. A one-time non-refundable $30 application fee must accompany the admission application.

**First Year Students (Freshmen)**

**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. 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 October through February. 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.

*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 11th 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 postsecondary institutions. 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. Either one or both of these tests should be taken no later than the January testing date of the senior year. Students should feel free to repeat a test, since the highest score will be considered for admission.

Priority Deadlines for Applications and Supporting Documents

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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.

Required High School Course Units

Applicants should have earned four units (an academic unit is a non-remedial yearlong course) of English (at least three with substantial writing requirements); three units of mathematics, including Algebra I, Algebra II and Geometry (Trigonometry is also required by the College of Engineering and recommended by all other colleges); three units of natural science (biology, chemistry and physics are recommended); four units of social studies/social sciences (includes history, civics, political science, economics, sociology, psychology, and geography), and four units of electives (preferably including 2 units of a foreign language). Electives include liberal arts including fine and performing arts.

Academic Qualifications

Applicants for admission who have satisfactory high school records, including at least a 3.00 high school GPA and the required high school course units, and have the appropriate ACT (20 composite, no remedial sub-scores) or SAT (970 math and critical reading with neither score below a 440) scores are academically eligible for admission consideration.

Applicants who have less than a 3.0 average in the required academic units described above must present a combination of high school GPA and test scores as indicated in the list below. The test scores do not include the writing score for either the ACT or SAT.

If the high school GPA in the required academic courses is: Then the test score must equal or exceed the corresponding entry in this column:
SAT ACT
2.0 1,140 25
2.1 1,140 25
2.2 1,130 25
2.3 1,100 24
2.4 1,060 23
2.5 1,060 23
2.6 1,030 22
2.7 1030 22
2.8 990 21
2.9 970 20

Home Schooled Applicants

High school students who are home schooled are reviewed for admission and for scholarships at UAHuntsville following the same criteria used for students from public and private high schools including the required test scores stated above. The official high school record of courses completed should contain the titles of courses in each subject area, beginning with grade nine. This record should contain annotation of the general content in the academic courses and the textbooks used. The teaching credentials of the home school teacher should be included.

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 500 or higher is required for regular admission status. The applicant must also take the ACT or SAT and have an official score report sent to the UAHuntsville Admissions Office. An official transcript of completed high school courses is also required. UAHuntsville is a testing center for the GED program. Anyone seeking additional information or wishing to take the GED examination should contact the Office of Instructional and Testing Services at (256) 824-6725.

Conditional Admission for High School Graduates

An individual who has applied for regular admission and who does not meet the admission criteria may be considered for admission on a conditional basis in certain circumstances. The Director of Admissions is authorized to offer conditional admission based on an evaluation of the student’s previous academic credentials and evidence of serious commitment to academic pursuits. Conditionally admitted students are normally limited to a maximum of a 9 semester hour course load until a total of 15 semester hours of work is completed with at least an overall C (2.0 GPA) average. Upon satisfactory completion of 15 or more hours of course work at UAHuntsville, with at least a 2.0 GPA on all UAHuntsville coursework, the conditional classification will be changed to regular student status. Credits earned while on conditional status are recorded on the student’s permanent record and may count, if applicable, in a regular undergraduate degree program.

A student enrolled on conditional status is subject to the same periodic review of his or her academic record as a regular student and is subject to the University’s regulations regarding scholastic probation and suspension. (See Academic Information.) If a student becomes subject to academic suspension, the suspension is for a minimum of one semester, and the student must petition the Admissions and Scholastic Affairs Committee for approval to re-enroll.
Early Start Program

UAHuntsville welcomes academically talented high school juniors and seniors who wish to earn college credits while still enrolled in high school. Students who have an ACT of 26 or an SAT of 1180, and a high school GPA of 3.5 may apply for admission into the Early Start Program. This option may be appropriate for students whose high schools do not participate in the Dual Credit program or students who have completed all high school graduation requirements but have not yet graduated from high school. Applicants must submit the Early Start application form, a $30 non-refundable application fee, official transcripts showing high school and any college level work, official ACT or SAT scores, written approval from school officials and written approval from the student’s parent or guardian. Students enrolled in the Early Start program may register for a maximum of two courses per semester.

Dual Credit Program

Several local school systems have an agreement with UAHuntsville permitting high school juniors and seniors to take classes at UAHuntsville that may count for both high school credit toward graduation and college credit toward a degree at the University. High school juniors and seniors who meet regular UAHuntsville admission requirements and have at least a 3.0 high school academic GPA may, with the approval of their school officials, take classes at UAHuntsville and receive credit at both the high school and college level for UAHuntsville classes approved by the school system.

Applying for the Dual Credit program at UAHuntsville requires: a completed Dual Credit application; the $30 non-refundable application fee; an official transcript of high school work; official ACT or SAT scores; written approval from high school officials; and written approval from the student’s parent or guardian. Students enrolled in the Dual Credit program may register for a maximum of two courses per semester.

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 UAHuntsville 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 UAHuntsville 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 UAHuntsville to be considered for admission. An overall 2.5 GPA and a minimum 2.25 GPA in all courses transferable to UAHuntsville is highly recommended for individuals wishing to transfer to UAHuntsville.

Students who have already completed a bachelor’s degree and wish to earn a second bachelor’s degree at UAHuntsville 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 Business or the College of Nursing is an action independent from admission to the University. Students interested in pursuing the BSBA or BSN should refer to the appropriate college section of this catalog for more information. Transfer students who intend to pursue the BSBA degree should read carefully the College’s section on “Admission as a Transfer Student” and “Admission to the Upper Division.”

Evaluation of Transfer Credit
The University of Alabama in Huntsville follows the practices specified in Transfer Credit Practices of Selected 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 UAHuntsville. 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 UAHuntsville. In order to obtain full credit for courses accepted as provisional credits, students must complete 30 semester hours at UAHuntsville 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 UAHuntsville.

Courses completed at unaccredited and non-candidate institutions are normally not accepted for credit at UAHuntsville. The student may appeal or challenge credit for these courses through the dean of the college in which the course is offered. 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 UAHuntsville. As a member of Service Members Opportunity Colleges, UAHuntsville is committed to easing transfer of relevant course credits and crediting learning from appropriate military training and work experiences.

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 UAHuntsville 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 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 UAHuntsville students will be equally applicable, within specified limits, to transfer students.

UAHuntsville participates in the Alabama Articulation Agreement. Students intending to transfer to UAHuntsville from Alabama junior or community colleges are encouraged to consult with their advisors, the UAHuntsville Office of Admissions, and obtain a STARS guide. This guide is also available via the Internet at http://www.UAH.edu or 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 64 semester hours of credit from a junior, community or two-year college may be transferred to UAHuntsville and applied toward a degree program. Requests for exceptions must be in writing and approved by dean of the college in which the student is enrolled.

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 $30 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 UAHuntsville 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 course-by-course 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 UAHuntsville - copies will not be accepted by UAHuntsville. Examples of acceptable evaluation services are:

   Educational Credential Evaluators (EEC)
   P.O. Box 514070
   Milwaukee, WI 53203-3470
   Ph: (414) 289-3400
   Fax: (414) 289-3411
   www.ece.org
   eval@ece.org

   International Education Evaluators (IEE)
   P.O. Box 545863
   Surfside FL 33154
   Ph: (305) 503-9063
   Fax: (305) 993-5550
   www.iee-usa.com
   info@iee-usa.com

   Josef Silny & Associates, Inc.
   International Education Consultants
   7101 SW 102 Avenue
   Miami, FL 33173
   Ph: (305) 273-1616
   Fax: (305) 273-1338
   Translation Fax: (305) 273-1984
   www.jsilny.com
   info@jsilny.com

   World Education Services, Inc.
   P.O. Box 5087
   Bowling Green Station
   New York, NY 11027-5087
   Ph: (212) 966-6311
   Fax:(212) 739-6120
   www.wes.org
1. Official American College Test (ACT) scores or SAT scores sent directly to UAHuntsville from the testing service headquarters. (ACT/SAT is not required of an applicant who has earned more than 24 semester hours of college work with a 2.0 GPA. The SAT may be used as a substitute for the ACT.

2. Official Scores from the Test of English as a Foreign Language (TOEFL) sent directly to UAHuntsville from the Educational Testing Service. A minimum score of 500 (paper based) 173 (computer-based score) 62 (iBT) with iBT subsections: 13-W, 18-S, 15-R, and 16-L.

3. Students who will attend UAHuntsville 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 UAHuntsville.

Transferring from another U.S. institution

Individuals in the U.S. in F or J status who intend to transfer to UAHuntsville from a U.S. high school or college will receive, upon admission, a transfer clearance form that must be completed by the previous institution and sent to the UAHuntsville 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 UAHuntsville prior to the start of the semester of enrollment.

English Language Placement Test

The UAHuntsville English Language Placement Test (ELPT) is required of all international students whose native tongue is not American Standard English, regardless of nationality or prior English study. A student must complete any course work in English as a Second Language (ESL) that the test indicates is required.

Health and Immunization Policies

All F-1 international students are required to purchase the UAHuntsville health insurance and will be assessed the insurance premium each semester upon enrollment in classes. Requests for a waiver from the mandatory policy must be made to Student Development Services.

Tuberculosis Screening and Testing Policy

All new international students must prove that they are free of active, infectious tuberculosis either through a negative skin test or negative chest x-ray. The only TB skin test accepted at UAHuntsville is a Mantoux purified protein derivative (PPD) test that is read within 48-72 hours from the time it is administered. Documented negative TB tests performed outside the United States are not acceptable. PPD testing will be part of orientation procedures and will be provided upon arrival on campus at the UAHuntsville Wellness Center (Student Health Services) free of charge.

Failure to comply with testing within seven days of the beginning of classes may result in the students’ schedule being dropped. Dropped students will not be permitted to re-enroll at UAHuntsville until they have fulfilled the TB testing requirements.

Special Student Status

Non-degree Students
UAHuntsville provides simplified admission procedures for students who want to pursue their educational goals, but who have no immediate degree plans. These students, sometimes called “casual course takers,” may choose to apply as special non-degree students. For information, call (256) 824-2773.

Any adult who has completed high school or completed the GED with a minimum score of 500 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. Credit courses will count if applicable in 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 UAHuntsville on a student visa are not eligible for non-degree status.

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 and dismissal. (See Academic Policies and Procedures.) If a non-degree student becomes subject to academic suspension, the suspension is for a minimum of one semester, and the student must petition the Scholastic Affairs and Admissions Committee for approval to re-enroll.

**Transient Students**

Students who are currently enrolled at other colleges may apply for admission to take credit classes that will count toward a degree at their home institution. A completed application, a non-refundable $30 application fee, and a “Letter of Good Standing” (LGS) from the current college are required. The LGS verifies eligibility to return to the student’s home institution and verifies the home college will accept the UAHuntsville courses for degree requirements. Transient students should satisfy UAHuntsville course prerequisites for each course taken and may be required to submit official transcripts from the home institution showing satisfactory completion of prerequisites.

**Concurrent Enrollment**

This category permits a student to enroll concurrently at more than one higher education institution. One institution must be declared as the “home” institution. A student may enroll at UAHuntsville and concurrently at another regionally accredited higher education institution and earn credit toward a degree at UAHuntsville, provided that prior written permission has been obtained from the student’s academic advisor and the UAHuntsville Registrar. The student pays regular tuition at both institutions.

**Post-Baccalaureate**

Students who have already earned a baccalaureate degree may enroll in this non-degree status. The student should submit official transcripts showing the earned degree and must meet UAHuntsville course prerequisites. This status may be appropriate for students taking courses in preparation for graduate school.

**Re-Entry**

A student who has not attended UAHuntsville for one or more semesters and who wishes to return should consult with the Office of Admissions to determine enrollment status and the conditions under which studies may be resumed.

**Academic Common Market of the Southern Regional Education Board**
The Academic Common Market (ACM) is an association of 16 states (AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, 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 UA Huntsville 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 UA Huntsville. 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 Academic Common Market.

**UA Huntsville Resident/Non-Resident Tuition Fee Guidelines**

**A. Introduction.**

All students registering at The University of Alabama in Huntsville (UA Huntsville) 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. Classification of students as “non-resident students” or “resident 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 Enrollment Services prior to the first day of classes for the term requested.

**B. 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 registration. 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 advalorem taxes thereon
3. Full-time employment 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
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.

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 by identifying then existing, sufficient connections with Alabama.

C. 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 UAHuntsville or is the spouse of such an employee
2. Is employed by UAHuntsville 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 is the spouse of such employee, where the employment will begin no later than 90 days after registration.
4. Is a member or the spouse of a member of the U.S. military on full-time active duty stationed in Alabama under orders for duties other than attending school.
5. 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. Under current 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.

D. Appeal.

The Associate Vice President for Enrollment Services will make the initial decision on an application for reclassification to resident student status. A student who believes that decision is in error may appeal to the Residence Status Review Committee. This Committee is made up of a representative appointed by the Vice President for Academic Affairs, the Vice President for Student Affairs, and the President of the Student Government Association. Notice of appeal must be in writing and must be delivered to the Office of the Vice President for Academic Affairs no later than fourteen (14) days after the date of the initial decision of the Associate Vice President for Enrollment Services. The decision of this Committee may be appealed to the President of the University, whose decision shall be final.

The foregoing Guidelines are a summary of the provisions of Rule 202 of The Board of Trustees of The University of Alabama (“Nonresident Tuition Policy”). This Rule constitutes the full statement of policy applicable to the residency classification of UAHuntsville students.
Financial Information

- Tuition and Fees
- Housing Charges
- Financial Aid
- Types of Financial Aid

Tuition and Fees

The following tuition and fees are based on the 2008-2009 academic year fee structure. 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 fee structure at its May or June meeting. These fees do not apply to any shortterm, off-campus, or noncredit offering. For additional information on these courses, see section on Division of Continuing Education. Current fees are available on the web at www.UAHuntsville.edu.

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</table>
Each additional hour is $135.00 for residents and $330.00 for non-residents.

<table>
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<tr>
<th>Graduate Hours</th>
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<td>1</td>
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<tr>
<td>2</td>
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<td>4</td>
<td>1547.00</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>2281.00</td>
<td>5442.00</td>
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</tr>
<tr>
<td>12</td>
<td>4015.00</td>
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</tr>
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</table>

Each additional hour is $289.00 for residents and $699.00 for non-residents.

The University reserves the right to change its fees, charges, rules and regulations at the beginning of any semester and without prior notice.

**College Laboratory and Instruction Fees Per Credit Hour**

- College of Business $13.50
- College of Engineering $35.00
- College of Liberal Arts $8.00
- College of Nursing $38.00
- College of Science $14.00
Cooperative Education Fees

Parallel Work Semester is $40
Alternating Work Semester is $80

Orientation Fees

A one-time orientation fee of $95 is charged to all freshmen entering the university in the fall semester.
Transfer students and new students entering in the Winter and Summer terms are charged a $30 orientation fee.

Charger Card Fee

All newly admitted students will incur a one-time fee of $10.00 for an identification card with photograph. In addition to its official proof of your affiliation with UAHuntsville, the Charger card can provide security access to buildings on campus and declining balance account privileges.

Acceptable Forms of Payment

Payment can be made in cash, by check or money order, or can be charged to a VISA, MasterCard, American Express, or Discover charge card. Sponsoring agencies, faculty/staff or University tuition assistance supported by written documentation, or anticipated financial aid verified by the Office of Student Financial Services are also valid payment forms. Awards may be applied directly to a student’s account for charges incurred.

Billing and Payment Procedure

Tuition and fees should be paid in full by the first day of the semester. Payments may be charged to VISA, MasterCard, American express, or Discover by paying on the Web or calling (256) 824-2732. Students who do not pay bills in full by the first day of classes are assessed a $50.00 late fee. Students who do not pay bills in full by the end of the second week of classes for fall and spring semesters may be dropped from class rolls and enrollment will be canceled. The University assumes no responsibility for students who attend classes without official enrollment. For summer sessions, please check dates in the Schedule of Classes and on the UAHuntsville Website. Send payments to The University of Alabama in Huntsville, Cashier’s Office, University Center Room 213, Huntsville, AL 35899-5050.

Deferred Payment Plans

Students enrolling for at least three semester hours of credit are eligible for the deferred payment plans. These plans enable total tuition, housing and other current charges to be divided into two or four payments each semester.

**Two Payment Plan:** The first payment of at least half of the total amount of current charges is due by the first day of the semester. The second payment of the remaining balance is due the end of the sixth week of the semester. There is a $20.00 non-refundable administration fee that must accompany the deferment agreement form.

**Four Payment Plan:** The first payment of at least 25% of the total amount of current charges is due by the first day of the semester with monthly payments thereafter. There is a $50.00 nonrefundable administration fee that must accompany the deferment agreement form.
Deferment agreement forms are available in the Bursar’s Office (UC 214), Bursar’s Office website (bursar.uah.edu) and Charger Central (UC118). After completion, the deferment agreement form should be presented with the first payment to the Cashier’s Office. The deferred payment plans are only offered for the Fall and Spring Semesters and a deferment agreement form must be completed each semester. International student insurance and international student fees are not deferrable.

**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 students’ accounts that have past due balances. This hold will prevent them from receiving grades, transcripts or registering for another semester at UAHuntsville. 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**

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Credit by examination or validation</td>
<td>$10.00/semester hour</td>
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<tr>
<td>Replacement of I.D. card</td>
<td>$20.00</td>
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<tr>
<td>Transcript</td>
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<td>Graduation Application fee (non refundable)</td>
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<td>Duplicate Diploma</td>
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<td>Thesis and Dissertation binding</td>
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<td>Master’s thesis</td>
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<td>Ph.D. dissertation</td>
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<td>PhD. Dissertation</td>
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<td>Nursing Badge</td>
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**College of Nursing**

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<tr>
<td>Annual health examinations</td>
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</tbody>
</table>

**Refunds**
Students may drop a class through the second week of classes (fall and spring) and receive a 100% tuition refund. Please check UAHuntsville website for summer dates. A student desiring to drop one or more classes must complete a drop request form at Charger Central, University Center Room 118. The date of the drop request is the date the written request is received at the Office of Student Records.

Housing Charges

Suites: Single Students: Academic Year Room Rates, 9-Month Rates, & 12 Month Rates

Central Campus Residence Hall (CCRH)
Available for Freshmen Only/Academic Year Rate

Private Bedroom in 4-person suite, Central Campus Residence Hall (CCRH) $ 4,600

Frank Franz Hall (FFH) and North Campus Residence Hall (NCRH)
Available for Sophomores, Juniors, and Seniors

FFH & NCRH Fall & Spring Semesters: Private bedroom in 4-person suite $ 4,900

NCRH Fall and Spring Semesters, Studio Suite (one bedroom suite) $ 5,250

NCRH 9-Month Floor (floor remains open during semester break and spring breaks)

Private bedroom in 4-person suite $ 5,200

NCRH 9-Month Floor, Studio Suite (one bedroom suite) $ 5,470

NCRH 12-Month Floor (floor remains open for all breaks and summer sessions)

Private bedroom in 4-person suite $ 6,360

NCRH 12 Month Floor, Studio Suite (one bedroom suite) $ 6,660

Southeast Campus Housing (SECH)
Available for Juniors, Seniors and Graduate Students/Academic Year Rate

Private Bedroom in 3-bedroom apartment, Southeast Campus Housing (SECH) $ 4,130

Fraternity and Sorority Houses (FRSO)
Available for Sophomores, Juniors, and Seniors
Private Bedroom in 10-bedroom house $ 4,630

(payable in 8 installments of $578.75 each)

Apartments

Graduate Students and Student Families: Full Year (12 Month) Lease

Southeast Campus Housing (SECH)

One-bedroom unfurnished $ 6,300

(payable in 12 installments of $525 each)

Note: All Housing rates include basic utilities and basic television cable for each suite and internet access in each bedroom. Students assigned to suites must pay the full semester’s rent at the beginning of the semester. A student who fails to complete payment of fees due or fails to file a payment deferment request with the Cashier’s Office by the first day of the semester will have his or her registration canceled. Students assigned to private apartments or to an FRSO house may pay their rent in equal installments on a monthly basis. Rent payments are due the first day of each month. If a student officially withdraws from the University while residing in University Housing, he or she may qualify for a prorated refund of rent. This is determined by the date of the student’s official check-out from Housing.

Withdrawal during the first week of the academic semester 80% refund
Withdrawal during the second week 60% refund
Withdrawal during the third week 40% refund
Withdrawal during the fourth week 20% refund
Withdrawal after the fourth week no refund

Food Contract Rate

The on-campus freshman resident meal plan requirement is $2,124 for the academic year (Fall & Spring semesters) payable in two semester installments of $1,062 each. Sophomores, Juniors, and Seniors living in CCRH, FFH and NCRH are required to have a minimum of $700 for the academic year payable in 2 semester installments of $350 each. The meal plan program is optional for Southeast Campus Housing and Fraternity and Sorority residents.

These rates are effective beginning Fall Semester, 2009. The University reserves the right to adjust housing and meal plan rates at any time.

If a student officially withdraws from the University while residing in University Housing, he or she may quality for a prorated refund of room and board. This is determined by the date of the student’s official check-out from Housing:

During the first week of the academic semester - 80% refund
During the second week - 60% refund
During the third week - 40% refund
During the fourth week - 20% refund

After the fourth week no refund.

Financial Aid

Students who are receiving financial aid are responsible for completing the necessary paperwork far enough in advance to assure the proper credits to their accounts. For further information, please check with Student Financial Services, University Center, Room 212, or the Cashier’s Office, Room 213.

Undergraduate Student Aid

UAHuntsville has several programs to assist students in financing their college education. Comprehensive, updated information on all financial aid offered through the Office of Student Financial Services is available in a booklet published annually. It includes detailed information about kinds of aid, eligibility guidelines, application procedures, criteria for awards, disbursement methods and regulations, and institutional policy followed in administration of aid. These booklets and necessary forms are available in the Office of Student Financial Services.

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. UAHuntsville helps qualified students find employment, scholarships, and loans as its resources permit. In planning a program of financial assistance, consideration should be given to the advisability of combining scholarships, loans, and part-time employment since one kind of aid alone is inadequate in most cases.

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. The priority dates are the dates by which completed applications are certain to be included in the first round of review.

Applicants are advised to write the Office of Student Financial Services requesting a copy of the financial aid booklet at the time of application to the University. Applications for student aid should be filed at the Office of Student Financial Services before the priority date of April 1, for the following school year. A new application must be submitted by this priority date each year.

Types of Financial Aid

Scholarships

(See Web for Scholarships)

Loans

UAHuntsville participates in the William D. Ford Federal Direct Stafford Loan program. Student loan funds are made available directly from the U.S. Department of Education without the necessity of secondary marketers such as private lending institutions. 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 half of what is needed to meet expenses. Additional information regarding eligibility amounts, loan limits, application procedures and suggested application timelines is published in the brochure “Making College Affordable.” This and other valuable information regarding the financial aid process are available in the Office of Student Financial Services as well as Charger Central.
**Tax Credit**

As part of the Taxpayer Relief Act of 1997, Congress has enacted legislation that allows taxpayers to take certain portions of tuition paid in the prior year as a direct tax credit. Students or those who pay tuition on behalf of students should consult a tax advisor for more detailed information. General information is also available from the U.S. Department of Education’s web site at www.irs.gov, or by contacting the Internal Revenue Service at 1-800-829-1040.

**Grants**

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, show evidence of academic promise, and be capable of maintaining good standing in the chosen course of study. 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 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) establish financial need; (2) be enrolled in an eligible program; (3) be a U.S. citizen or in the U.S. for other than a temporary purpose and intend to become a permanent resident or be a permanent resident of the Trust Territories of the Pacific Islands.

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 Student Financial Services for information regarding eligibility, application, selection, and awards procedures.

**Federal Financial Aid Repayment**

Federally funded student financial aid (Pell, SEOG, Stafford) awarded to a student who withdraws after registration but before the end of the refund period will be repaid to the respective program source. When withdrawal or reduction of class load occurs after the end of the refund period, full-tuition charges will be paid from the aid source. The unused portion of the aid will be repaid to the respective aid source. Specific regulations governing this policy may be found in Student Financial Aid, a brochure available in the Office of Student Financial Services.

**Federal Work-Study Program**

The College Work-Study Program provides employment for students who need financial assistance. A student works part-time while attending the University and during vacation periods. Students engaged in this program work on campus or in a non-profit agency. In determining eligibility, preference will be given to students with the greatest financial need.

**Tuition Assistance**

Some businesses and industries provide tuition assistance to employees attending UAHuntsville. An employed student should consult the personnel office of his or her place of employment to determine its policy regarding tuition assistance.
Vocational Rehabilitation

Students with a physical disability may obtain grants-in-aid covering fees, books, and supplies through the Vocational Rehabilitation Service, which is supported by federal and state appropriations. For further information, write to: Alabama Vocational Rehabilitation Service, 2939 Johnson Rd Huntsville, Alabama 35805 or the Director of Vocational Rehabilitation, Room 416, State Office Building, Montgomery, Alabama 36104.

Veterans Affairs

UAHuntsville offers a full range of services to the student attending under the Veterans Administration Educational Assistance Program. These services include veterans’ advisement, educational loans, and the Veteran Tutorial Program. Under the current Veterans Educational Assistance Programs, which affect most veterans, the veteran receives an allowance directly from the government. The veteran is responsible for paying fees directly to the University and meeting payment deadlines applicable for all students.

The Veterans Administration will make full payment only when the student carries a full academic load. To facilitate the prompt and accurate reporting of the student’s status and course load, the veteran must complete a brief form every semester enrolled. This form must be turned in to the veterans affairs clerk in the Office of Student Financial Services, Room 212, University Center.

It is the student’s responsibility to remain in good standing with the Veterans Administration and to respond to notification of changes in regulations. For additional information, write to: Veterans Administration Regional Office, 474 South Court Street, Montgomery, Alabama 36104. Many students who are children of veterans of World War I, World War II, or the Korean War may be eligible for benefits under the War Orphans Educational Assistance Act (PL 634). Write the nearest Veterans Administration Regional Office for additional information. The Alabama G.I. and Dependents Education Benefits Act grants tuition assistance to eligible veterans, their children, widows and wives. Tuition is paid directly to the school. For additional information, write to: Assistant to the Director, Department of Veteran’s Affairs, P.O. Box 1509, Montgomery, Alabama 36102.

Campus Life

- Student Activities
- Student Government Association (SGA)
- Student Organizations
- Greek Letter Societies
- Social and Cultural Activities
- Intercollegiate Athletics
- Facilities and Services
- University and Food Service
- The University Center
- Student Support Services
- Academic Support Services
- SSC Programs
- College Academic Support Centers

Student Activities

The Office of Student Activities, under the direction of the Dean of Students Office, offers a wide variety of activities in which students may become involved. The advisor to the sororities and fraternities and the Association for Campus Entertainment is located in this office. The Student Activities office maintains a complete listing of clubs and organizations.

Student Government Association (SGA)
The SGA is the supervising organization of student-led and -oriented clubs and organizations on the UAHuntsville campus. Students wishing to join or create a club need to contact SGA, to determine if a club with their interest is already in place or to obtain help with chartering a new organization. The SGA also advocates positive changes in the University system seeking to improve student life by voicing student concerns and suggesting courses of action that will better serve the student body and the University as a whole. The SGA also focuses the leadership efforts of the student body to help create a united, cohesive campus. The SGA may also be found on the web site at http://sga.UAHuntsville.edu and can be reached via email at SGA@email.UAHuntsville.edu.

**Student Organizations**

UAHuntsville has more than 130 special-interest organizations and clubs. For a complete listing, see the Director of Student Activities in University Center 103 or call (256) 824-2717.

**Greek Letter Societies**

**Social Societies**

**Interfraternity Council (IFC)**

IFC serves as the governing body of four fraternities at UAHuntsville in order to develop cooperation and coordination of activities among the member fraternities. The four national social fraternities on campus are Alpha Tau Omega, Delta Chi, Pi Kappa Alpha, and Sigma Nu.

**Panhellenic Council (NPC)**

The Panhellenic Council is the organization which coordinates sorority activities at UAHuntsville. The two social sororities available to young women at UAHuntsville are Delta Zeta, and Kappa Delta.

**National Panhellenic Council (NPHC)**

The National Panhellenic Council is the organization that coordinates activities for traditional African-American fraternities and sororities at UAHuntsville. The fraternities include Alpha Phi Alpha and Kappa Alpha Psi. The sororities include Alpha Kappa Alpha and Delta Sigma Theta.

**Academic Honor Societies**

**Alpha Epsilon Delta (Pre-Medical)**

The UAHuntsville chapter of Alpha Epsilon Delta, the national pre-health professional honor society, was established in the fall of 1978 and chartered in the spring of 1979. Membership is an honor bestowed in recognition of superior scholarly achievement, and affording the student an opportunity to develop initiative, leadership, and self-education by participating in the activities of the chapter.
Alpha Kappa Delta (Sociology)

The Epsilon of Alabama chapter of Alpha Kappa Delta was chartered by the national sociology honorary society in the spring of 1976. Membership in AKD is limited to students who have maintained a high standard of excellence in their courses of study in sociology and who show serious interest in this academic field. The candidate for membership must complete at least 10 credit hours in sociology, with an overall GPA of 3.0, must maintain a B average in sociology. Must be in the upper 35% of the class.

Alpha Lambda Delta (Freshman)

The UA Huntsville chapter of Alpha Lambda Delta, national scholastic honor society for freshmen, was installed in the fall of 1974. The purposes of the society are to encourage superior scholarship among students in their first year in institutions of higher education, to promote a continued high standard of learning, and to assist students in recognizing and developing meaningful goals for their roles in society. To become a member, a student must earn a grade point average of 3.5 during the first year of enrollment.

Alpha Pi Mu (Industrial Engineering)

The national honor society for industrial engineers, Alpha Pi Mu was founded at the Georgia Institution of Technology in 1959 to recognize industrial engineering students of distinguished scholarship. The Constitution states that only those ranked in the upper one-fifth of the junior class or the upper one-third of the senior class can be considered for membership.

Beta Alpha Psi (Accounting)

The Iota Theta Chapter of Beta Alpha Psi was chartered in 1999. Beta Alpha Psi is the national honor society for students majoring in accounting, finance, or information systems at schools accredited by AACSB International - The Association to Advance Collegiate Schools of Business. The organization especially encourages and recognizes high academic achievement, as well as service to one’s profession and to the public. Members have the opportunity to interact with professionals in the various areas of financial management.

Beta Gamma Sigma (Business or Management)

Membership in Beta Gamma Sigma is the highest recognition a business student anywhere in the world can receive. To be eligible for nomination, a student must be in a program accredited by AACSB International - The Association to Advance Collegiate Schools of Business and rank in the upper seven percent of the junior class, upper ten percent of the senior class, or upper twenty percent of the master’s graduating class. Members are elected to membership. Beta Gamma Sigma encourages and honors high academic achievement and personal excellence in the study and practice of business.

Kappa Delta Pi (Education)

Kappa Delta Pi, an international honor society, is dedicated to scholarship and excellence in education. The society as a community of scholars pledged to worthy ideals recognizes scholarship and excellence in education, promotes the development and dissemination of worthy educational ideas and practices, enhances the continuous growth and leadership of its diverse membership, fosters inquiry and reflection on significant educational issues, and maintains a
high degree of professional fellowship. Scholarship criteria for undergraduate students: junior standing, admitted to the Teacher Education Program, and a 3.25 GPA. Kappa Delta Pi was chartered at UAHuntsville on November 2, 1997.

**Eta Kappa Nu (Electrical Engineering)**

The Theta Eta Chapter of Eta Kappa Nu was chartered on April 29, 1978. The objectives of Eta Kappa Nu are to honor those students in electrical engineering who have excelled in scholarship, leadership, and exemplary character, and to unify them with graduates and faculty who have attained prominence in the field of electrical engineering. Membership is by chapter invitation only to graduates, faculty, professionals, juniors in the top fourth of the electrical engineering class, and seniors in the top third of the electrical engineering class.

**Omega Chi Epsilon (Chemical Engineering)**

Omega Chi Epsilon is the Chemical Engineering Honor Society. OXE recognizes superior service and research by undergraduate and graduate majors in chemical engineering. UAHuntsville received its charter on April 17, 2001.

**Omicron Delta Kappa (Leadership)**

The purpose of the Omicron Delta Kappa Society is to recognize individuals who have attained a high degree of leadership in collegiate and related activities, to encourage them to continue along this line, and to inspire others to strive for similar conspicuous attainment; to bring together representative individuals in all phases of collegiate life and thus create an organization which will help mold the sentiment of the institution on questions of local and inter-collegiate interest; and to bring together members of the faculty and student body of the institution on a basis of mutual interest, understanding, and helpfulness.

**Order of Omega (Greek)**

Membership is open to juniors and seniors of the Greek organizations on campus who have been members at the institution for one full academic year, who rank academically above the all-fraternity or all-sorority average of the system, and are in good standing with their fraternal organization.

**Phi Alpha Theta (History)**

UAHuntsville has a chapter of Phi Alpha Theta, international history honorary society. Membership is by invitation only to history students who have completed a minimum of 12 hours in history with a grade point average of 3.5 and an overall average of 3.0 in all courses.

**Phi Kappa Phi (Multi-discipline)**

The primary objective of the national honor society of Phi Kappa Phi is the recognition and encouragement of superior scholarship in all academic disciplines. The society is convinced that in recognizing and honoring those persons of good character who have excelled in scholarship in any field, it will stimulate others to espouse excellence. The society promotes an atmosphere conducive to academic excellence.

**Phi Sigma Iota (Foreign Language)**
Phi Sigma Iota recognizes outstanding ability and high standards in the field of foreign languages, literatures, and cultures, including classics, linguistics, philology, comparative literature, bilingual education, and other related areas. It promotes international communication and understanding, and a sentiment of amity among nations. Membership is open by nomination to any student who is at least a junior with a B average overall, as well as in foreign languages; has completed at least one foreign language course at the 300-level; is enrolled at UAHuntsville at the time of being offered membership; and who plans to take at least two 300-level courses in foreign languages.

**Pi Sigma Alpha (Political Science)**

Pi Sigma Alpha is the national honorary society for political science students of junior standing with a minimum of ten semester hours and a B average or higher in political science courses.

**Pi Tau Sigma (Mechanical Engineering)**

Pi Tau Sigma is the national mechanical engineering honor society. Its purposes are to foster the high ideals of the engineering profession, to stimulate interest in departmental activities, to promote the mutual professional welfare of its members, and to develop in students of mechanical engineering the attributes necessary for effective leadership. Membership is open to those students in the top quarter of juniors and the top third of seniors in mechanical engineering.

**Psi Chi (Psychology)**

Psi Chi is a national recognition society for students in the field of psychology. Its purposes are to encourage, stimulate, and maintain scholarship of the individual members in all fields, particularly in psychology, and to advance the science of psychology. To achieve these goals Psi Chi offers a wide range of programs at the local, regional, and national levels. Membership is open to students with a 3.0 overall grade point average and a 3.0 in psychology having completed 12 hours of psychology courses toward a minor or 15 hours toward a major.

**Sigma Pi Sigma (Physics)**

The Sigma Pi Sigma honorary society operates within the Society of Physics. Student membership is based on general scholarship. An overall GPA of 2.75 and a GPA of 3.2 in at least five courses in physics are required for membership.

**Sigma Tau Delta (English)**

The UAHuntsville chapter of Sigma Tau Delta, a national English honorary society, is Upsilon Mu. Its purposes are to assist in developing, maintaining, and promoting literary and educational activities for students and alumni of the chapter, as well as the entire university and civic community. Membership is open by invitation only to English majors and minors of junior standing who have a 3.0 grade point average.

**Sigma Theta Tau (Nursing)**

Sigma Theta Tau is the international honor society for nursing. Its purposes include the recognition of superior achievement and leadership qualities, the fostering of high professional standards and creative work, and the strengthening of the individual’s commitment to the ideals and purposes of the nursing profession. Invitation to membership may be extended to junior and senior undergraduate nursing students who have completed at least one-half of the professional nursing curriculum, who are in the upper 35 percent of their class and who have a grade point
average of 3.0. Graduate students in nursing who have completed at least one-fourth of their required nursing coursework and have a grade point average of 3.5 may be invited for membership.

**Society of Sigma XI (Science Research)**

Sigma Xi, founded in 1886, is a scientific honor society which was organized to reward excellence in scientific research by graduates, undergraduates, and faculty researchers and to encourage a sense of cooperation among scientists in all fields. Election to membership is open to all undergraduates, graduate students, and faculty in scientific and engineering disciplines who have evidence of notable achievement in research.

**Tau Beta Pi (Engineering)**

The Tau Beta Pi Association was founded at Lehigh University in 1885 to mark in a fitting manner those who have conferred honor upon their alma mater by distinguished scholarship and exemplary character as students in engineering, or by their attainments as alumni in the field of engineering, and to foster a spirit of liberal culture in engineering colleges. Membership is by invitation to those whose class standing is in the top eighth of the junior class or the top fifth of the senior class who have demonstrated exemplary character.

**Upsilon Pi Epsilon (Computer Science)**

The Computer Science Honor Society is for both graduates and undergraduates.

**Social and Cultural Activities**

**Association for Campus Entertainment (ACE)**

The Association for Campus Entertainment presents student activity programs for UAHuntsville through its five activity boards. The purpose of ACE is to provide entertainment and to enhance the cultural, intellectual and social life of students. The activity boards in ACE are as follows:

- **Cabaret**: The ACE Cabaret Series presents various types of live performers, from comedians to magicians. Film and Video: The Film series consistently provides a wide variety of quality films that appeal to the broad spectrum of UAHuntsville students.
- **Publicity**: The Publicity and Promotions Director informs potential audiences of all programs that the other ACE Activity Boards are bringing to campus through various media.
- **Special Events**: The Special Events Committee is responsible for planning annual events such as Homecoming, FallFest, and SpringFest, which is the culmination of a year’s activities. SpringFest is mandatory for students seeking fun! Events include “Extreme Air,” “Human Foosball,” concerts and comedians, and “Singled Out.”
- **Recreation and Leisure**: The Recreation and Leisure Committee is responsible for providing quality indoor and outdoor recreational opportunities for our students. This program should provide participants an opportunity to become involved in group and individual recreational activities for social interaction. Most of all, the Recreation and Leisure area is designed to emphasize challenge and fun.

**Art Programs and Exhibitions**
The Department of Art and Art History sponsors exhibitions and activities throughout the year, which are important to the cultural growth and enrichment of campus life at UAHuntsville. Students and faculty are welcomed and encouraged to participate in and contribute to these worthwhile opportunities.

The UAHuntsville Galleries of Art

The Art Department organizes exhibitions and events in three galleries on the UAHuntsville campus. The Union Grove Gallery and Meeting Hall, located just west of the University Center, the Salmon Library Gallery and the Wilson Hall Gallery provide opportunities for the University and Huntsville communities to view the work of local, regional, and nationally recognized artists. The exhibitions change monthly and offer a wide range of artistic perspectives.

The Annual Student Exhibition

Each spring the Art Department sponsors an exhibition, juried by the faculty, dedicated solely to showcasing the work and talents of UAHuntsville students. Any student enrolled in the University is eligible to participate.

The Visiting Artist Program

This program offers opportunities for the public to meet, listen, and talk with the artists exhibiting their work in the UAHuntsville galleries. Presentations by distinguished artists visiting the campus often include studio and classroom sessions as well as public lectures.

Music Organizations

Musical organizations are open to all students, --music and non-music majors. Students should be able to make a place for themselves in some performing group, regardless of musical background and tastes. Credit is offered for most ensemble experience, and participation may be repeated with approval of the conductor.

UAHuntsville Choral Organizations

The Concert Choir, the Chamber Choir, and the Tenor-Bass Chorale perform choral literature of the great masters of music history as well as folk music of various countries. Admission is by audition with the conductor and attendance at all rehearsals and performances is required.

UAHuntsville Jazz Ensemble

This is a group designed to give the beginning through advanced jazz musician exposure to a variety of jazz literature and styles. Additionally, the members will develop a basic understanding of jazz improvisation, and, if interested, will be encouraged to explore jazz arranging. Attendance at all rehearsals and performances is required. An audition with the instructor is also required.

UAHuntsville Wind Ensemble

The Wind Ensemble is a select group of experienced musicians who perform the best available music literature for wind ensemble and concert band. Attendance at all rehearsals and concerts is required. An audition with the conductor is also required.
**UAHuntsville Pep Band**

The Pep Band is a musical organization of students that promotes spirit and enthusiasm at a variety of athletic events. Members and scholarship recipients are chosen by audition.

**Drama**

Theatre at UAHuntsville began in the Fall of 2005 with a successful season consisting of two full length plays, two one acts, two ten minute play festivals and an outdoor event. The drama program is both curricular and co-curricular and interested students are urged to get involved either through the Drama Club or course work. Contact Mr. David Harwell (MH 325A, 824-6909) at harweld@uah.edu.

**Intercollegiate Athletics**

UAHuntsville is an NCAA Division II school and a member of the Gulf South Conference. The athletic department sponsors 14 intercollegiate sports providing the student-athlete with the opportunity to compete intercollegiately within a structured sporting environment and enhance personal growth and development in parallel with the goals of the institution. Sports sponsored for men are ice hockey, basketball, soccer, cross country, tennis and track; sports for women are basketball, softball, volleyball, cross country, tennis and track.

**Baseball (Men)**

Baseball was added in the spring of 1996, and UAHuntsville has already become a prominent competitor in the GSC and NCAA. The Gulf South Conference is nationally known as a premier conference for baseball. Beginning in 2007 home games will be played at the UAHuntsville campus.

**Basketball (Men and Women)**

Competition is high in the GSC in basketball, and UAHuntsville enjoys exciting competition during its basketball games that are played on campus in Spragins Hall.

**Cross Country (Men and Women)**

While running is basically an individual sport, cross country at UAHuntsville is founded on a philosophy of team effort and spirit. The team hosts an annual invitational competition in September.

**Ice Hockey (Men)**

UAHuntsville is the original “Hockey Capital of the South,” building a very strong hockey program with local players as well as skaters from points north. The Chargers have competed in a number of NCAA Championships in the last few years, winning in 1996 and 1998 before capacity home crowds at the Von Braun Center, the site of all home games. In the year 2000, UAHuntsville began to compete at the Division I level.

**Soccer (Men and Women)**
The soccer teams attract players from around the world. Games are played on Charger Field located on campus. UAHuntsville has been a soccer leader in the GSC in recent years.

**Softball (Women)**

Competition in the GSC is always at a high level and UAHuntsville has competed at or near the top since its inaugural season in 1996. Beginning in 2007 home games will be played on the UAHuntsville campus.

**Tennis (Men and Women)**

The Charger tennis programs provide an opportunity for competition in both singles and doubles. Home matches are played at the Charger Tennis Center, located next to Spragins Hall on campus.

**Track (Men and Women)**

In 2001, Women’s track and Field was added to the varsity athletics program followed by men’s track and field in 2003. Track and field has had a representative at the NCAA Regionals every year since it joined the Charger squad.

**Volleyball (Women)**

UAHuntsville volleyball is a consistent leader in GSC competition. The program annually hosts a quality tournament, which attracts a number of outstanding teams. In 1998 the team was selected to participate in the NCAA Regionals.

**Cheerleading and Dance Teams (Men and Women)**

The UAHuntsville cheerleading squad and Dance Team are composed of students whose primary purpose is to promote spirit and enthusiasm for intercollegiate athletics. Try-outs are conducted for interested students based on availability of participant spots.

**Mascot**

The UAHuntsville mascot, Charger Blue, brings recognition to the University through appearances at athletic and community events throughout the calendar year.

**Intramural Sports Program**

The intramural sports program serves the recreational needs of UAHuntsville students through a planned program of intramural athletics and other forms of recreational activities. The philosophy of intramural activities at UAHuntsville is that students should have the freedom of choice and responsibility for sharing in planning, supervising, and administering the program, and that the program should foster health, social contacts, and sportsmanship.

All students and members of the faculty and staff are eligible to participate in intramural activities. The sports offered include basketball, 3-on-3 basketball, flag football, floor hockey, racquetball, indoor soccer, 6 pack soccer, softball, volleyball, sand pit volleyball, dodgeball, ping pong, badminton, disc golf and 2 man golf tournament.
Student Publications

The *Exponent* is the UAHuntsville student newspaper. The paper is published weekly except during exams and holidays. The *Exponent* office is located in Room 104 of the University Center, telephone: 824-6090. The Publications Board, a joint faculty-student board, is responsible for the policies, planning, (selection of editors) coordinating and overseeing of the *Exponent* and the student publications under its jurisdiction.

An art and literary magazine, the printed campus forum for art and literature, is sponsored by the Publications Board. All UAHuntsville students are eligible to submit their work for publication. Anyone wishing to submit art or literature for consideration for the next issue can bring or mail the work to the Exponent office, Room 104, University Center.

Facilities and Services

University Housing

The University of Alabama in Huntsville offers a variety of housing facilities to meet the needs of its diverse student population. All first-year freshmen who apply for University housing will be assigned to the Central Campus Residence Hall (CCRH), which opened in the fall of 1991. First year students that reside outside of 30 miles from campus will be required to reside in University Housing. Sophomores and second-year residents may apply to our newest residence halls, Frank Franz Hall (FFH) and North Campus Residence Hall (NCRH). Students who are of at least junior status or 21 years of age may apply to Southeast Campus Housing (SECH). CCRH, FFH and NCRH all have private rooms designed for students who are physically challenged.

All suites in University Housing have basic cable television connection and a dedicated telephone line. Each bedroom has a computer hookup that provides access to UAHuntsville’s mainframe and the Internet.

All residence halls are near the Salmons Library, the University Fitness Center, and classrooms for liberal arts, nursing, business administration and natural sciences. Each resident has a carpeted, private bedroom in an air-conditioned suite and most share a bath with only one other suitemate. Every bedroom has an extra-long twin bed, a wardrobe or closet, a chest of drawers, a desk and chair. Suites are furnished with a dining table and chairs, sofa, accent tables, and lounge chairs. CCRH has a mini kitchen with a small refrigerator, microwave and sink. FFH and NCRH have a mini kitchen with an apartment-size refrigerator, microwave and sink. NCRH also contains 33 studio (one-bedroom) apartments, reserved for upper-class students. Laundry facilities, a recreation/meeting room, study lounges, computer labs, and mail service are available in each residence hall. Access to all halls except SECH is by an electronic smart card.

Southeast Campus Housing (SECH) consists of a cluster of nine three-story buildings located on John Wright Drive near Madison Hall, near the University Fitness Center and most engineering and science classrooms. Private bedrooms in three-bedroom suites are available in Southeast Campus Housing for students ranking junior or above or at least 21 years of age. In addition, one-bedroom unfurnished private apartments are available for graduate students or students with spouses and/or children. Several of the one-bedroom apartments are accessible to disabled students. A sandpit volleyball court in the center of the Southeast complex and intramural fields surrounding the area provide recreational spaces for residents.

FFH and NCRH have a full time, live-in Resident Director and at least one Student Resident Assistant (RA) on each floor. Southeast Campus is staffed with a Resident Director and a team of RA’s. 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 UAHuntsville is eligible for assignment to University Housing. A Housing Application Packet is mailed to every student who applies for admission or available on line at www.housing.UAHuntsville.edu.
assignments are contingent upon confirmation of admission. Priority for assignment is based upon academic class standing (first year student, graduate student, etc.) and the date of receipt of the application and commitment fee.

All single students sign an academic year room contract (late August-early May) or 12 month contract (late August-early August), depending on location. Housing charges are due when tuition is due each academic semester. Summer housing for single students is available in Southeast Campus Housing under a separate summer contract or in NCRH on the 12-month floor. The room contract for family and graduate student apartments is for twelve months (late August-early August) and rent installments are due monthly.

Current rates and additional information are all available from the Housing Office, 606-A John Wright Drive (256/824-6108) or on line at housing.UAHuntsville.edu. Individual and group tours of UAHuntsville Housing may be arranged by appointment through the Admissions Office.

University Food Service

Through the delivery of an exceptional food program, the UAHuntsville 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. The Charger Cafe is an "All You Can Eat" dining area located in the University Center. The menu program is known as Ultimate Dining and features rotating formats of food presentation: Classics, Pizzarette, The Grille, Performance Station, Soup'n Salad, Sub'n Sandwich, Vegetarian Selections, Desserts and Beverages. A spacious dining room with an adjacent patio is available for all guests.

In addition to the Charger Cafe, the University Center also houses Freshens, the largest custom-blended smoothie retailer in the country and one of the most popular smoothie and frozen yogurt and treats concepts in the United States. Charger Brew is also found in the UC, and proudly serves Starbucks coffee.

Jazzman's Cafe provides a coffee shop menu and atmosphere in two locations on campus: the Salmon Library and Business Administration Building. Jazzman's is a great place for early morning meetings, quick 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.

The Tom Bevill Conference Center and Hotel is adjacent to the Central Campus Residence Hall and contains the Gardenview Cafe, a full service dining facility.

Catering is also offered in the University Center as well as other areas of campus. Dining services' hours of operation are posted near the entrance of each dining area.

The University Center

The University Center (UC) is a part of the co-curricular educational program of the University and is a focal point of the campus. Designed for the entire campus community, it offers facilities and programs to meet the intellectual, social, recreational, and cultural needs of students, faculty, staff, alumni, and the entire Huntsville community.

The UC offers meeting rooms, dining and snack facilities, lounges, a game room, TV viewing rooms, an information desk, an art gallery, and the University Bookstore. The offices of the Dean of Students, the Student Government Association, Association for Campus Entertainment, the Exponent, Admissions and Records, Student Financial Services, International Student Services, Charger Central, Student Activities, Student Health Services, the Counseling Center and the Bursar are also located in the University Center.

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
- Follett's On-Campus Bookstore
- Off-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 and Flex. Deposits by cash, check or credit card are accepted in UAHuntsville's Cashier's Office.

**Lounges**

A well lit, spacious lounge, designed as a place to relax and meet friends, is equipped with comfortable furniture in an atrium setting.

**Game Room**

Located in the lower level of the Center, the game room has pool tables and ping-pong tables. Two TV lounges, with cable TV, are located in the game room.

**Meeting Rooms**

The Center has up to 13 meeting rooms designed for multipurpose functions. The rooms can accommodate meetings from 10 to 500 people. 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.

**University Bookstore**

Located on the lower level in the University Center, the University Bookstore is a full service college bookstore operating to meet the needs and convenience of the UAHuntsville Community. The University Bookstore provides required and supplemental textbooks, a large selection of technical and reference books, various study aids, and educationally priced software. The bookstore also buys used texts from students during the store hours year round. In addition to these services, the bookstore will special order any book in print.

In the University Bookstore, students can find UAHuntsville Campus sportswear, UAHuntsville insignia gifts, cards, imprinted notebooks, a wide variety of school supplies, calculators, and a choice of Art Carved or Josten’s class rings.

**University Fitness Center**
The University Fitness Center (UFC) is conveniently located on the UAHuntsville campus and is open 7 days a week, over 100 hours per week. The UFC is the only fitness center in Huntsville that offers its members a wide variety of health, wellness, and fitness programs all under one roof. As a joint University and Community facility, the primary mission of the UFC is to provide opportunities for wholesome recreational activities that complement daily living and increase the quality of life of its members. The UFC is a comprehensive facility offering among other activities, swimming, jogging, weight training, basketball and aerobics. All students may become members free of charge.

**Computer and Network Services**

UAHuntsville students have access to a variety of microcomputer laboratories on campus. Personal email accounts are automatically generated when students begin their academic careers at UAHuntsville. Students living on campus have access to the university’s central system as well as to the CNS Help Desk which troubleshoots individual computer problems.

**Campus Security**

The mission of the UAHuntsville Department of Public Safety is to enhance the quality of learning by protecting life and property and to provide a safe environment through professional services to the UAHuntsville community. The Department of Public Safety manages campus parking services, provides 24 hour patrolling and escort service when requested.

**Student Support Services**

**Dean of Students**

The Dean of Students provides services for individual students and student groups and facilitates the student’s attainment of academic, cultural, social and personal goals. Student Affairs also coordinates and supports group activities, campus events, and Student Government Association activities and programs. The Dean of Students interprets and administers the Student Judicial Code, which protects student rights and assists students in their awareness of student responsibilities. Student needs and interests are served by the university center, club sports, student life, intramurals, student development programs, leadership training.

**Counseling Center**

The Counseling Center, under the direction of the Vice President for Diversity and Student Support Services, at UAHuntsville 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 UAHuntsville. 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, test anxiety, family concerns, depression, sleeping problems and stress management. See our webpage at www.UAH.edu/counseling/ for more information. To schedule an appointment, contact the Counseling Center at (256) 824-6203 or come by Room 113 in the University Center.
Disability Support Services

Disability Support Services (DSS), under the direction of the Vice President for Diversity and Student Support Services, is committed to providing an equal 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. The student can choose whether or not to register for services. Services are provided in accordance with federal law. To be eligible for services, students must provide documentation of the disability from an appropriate practitioner. See our webpage at www.UAH.edu/counseling/disability for more information. To schedule an appointment contact DSS through the Counseling Center at (256) 824-6203 or Room 113 University Center.

Office of International Programs and Services

The Office of International Programs and Services, under the direction of the Provost, assists international students as they seek solutions to academic and personal problems, adapt to American culture and life on campus, and comply with university expectations and requirements. The office provides assimilation programs, such as Meet and Greet at the Huntsville Airport upon arrival to the U.S., facilitates international activities, conducts cross-cultural development workshops, and serves as ombudsman on campus for students. The OIPS also conducts international exchange programs with the assistance of the Huntsville community, as UAHuntsville extends its mission to the global arena. For more information, contact OIPS at (256) 824-6055, e-mail at oip@uah.edu, or visit the website at http://oip.uah.edu.

Multicultural Affairs

The Office of Multicultural Affairs (OMA), a unit of the Office of the Provost and Vice President for Diversity and Student Support Services, assists the University in providing an atmosphere that is welcoming, supportive and rewarding for students from diverse cultural backgrounds. Students are encouraged to achieve and aided in attaining academic excellence while learning to be competitive with their peers. OMA endeavors to foster an understanding and a respect for cultural diversity throughout the UAHuntsville community. Programs are designed for minority as well as non-minority students in order to promote a sense of community and acceptance of multiculturalism and racial tolerance on the UAHuntsville campus. Students may contact the Office of Multicultural Affairs in Madison Hall, Room 330, or telephone 824-6822 (oma@uah.edu).

Student Health Services (formerly the Wellness Center)

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 and health counseling. There is a nominal fee for an office visit with additional minimum charges for laboratory testing and medications. The Student Health Center is located in the University Center, room 203. 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://www.UAH.edu/wellness.

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 a measles (rubeola) containing vaccine. One dose must have been after 1980 and at least one of the doses must have been an MMR. Proof of immunity is also acceptable if a copy of the lab report is submitted with the medical form (see below).

A meningitis vaccination is also required for all freshmen.

**Tuberculosis Screening**

All students are required to have a Tuberculosis test (PPD) prior to registering for classes. The PPD test must be administered in the United States within 12 months of starting class. The PPD test requires 48 to 72 hours to complete. For new international students, the test can be administered upon your arrival to campus at the Student Health Center for a nominal fee. (Please see website for additional information [www.uah.edu/wellness](http://www.uah.edu/wellness))

**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. New students will not be allowed to register for classes until all required documentation is received in the Student Health Center. The form and instructions for completion can be found at the Student Health Center website at [www.uah.edu/wellness](http://www.uah.edu/wellness). Forms, along with any necessary attachments, should be submitted to:

The University of Alabama in Huntsville  
Student Health Center  
University Center Room 203  
301 Sparkman Drive  
Huntsville, AL 35899  
Fax 256-824-6722

Please note: The requirements noted above are for new students being admitted to University of Alabama in Huntsville. Individual colleges, e.g. College of Nursing, may have additional immunization requirements.

**Campus Ministry Association (CMA)**

The Campus Ministry Association (CMA) is an interfaith cooperative providing various ministries to the UAHuntsville community of students, faculty, and staff including diverse worship services, religious and spiritual development programs and educational events. The office is located in Madison Hall, Room 137.

**Reserve Officers’ Training Corps (ROTC)**

Our goal is to prepare graduates for positions of officer leadership with the national defense structure. Upon graduation from Army ROTC, one will earn the bar of a Second Lieutenant and become a leader. The office is located in room 200 of the University Center.

**Preschool Learning Center**

The preschool is provided in part by the University Preschool Parents Association to accommodate students, faculty, and staff, as well as the public. A stimulating environment is provided daily at the center, according to a fundamental philosophy that learning should be fun. In addition to cognitive development, the center focuses attention on the social, physical, and emotional development of the children enrolled. The center is staffed by professional teachers and well-
qualified teacher aides, each of whom is attentive to the needs of individual students. The center has several attendance plans to accommodate the various schedules of student parents. Call (256) 837-9553 for information.

**Academic Support Services**

**Student Success Center (SSC)**

Diana Calhoun Bell  
111C Madison Hall  
diana.bell@uah.edu  
824-3142

UAHuntsville endeavors to provide excellent student academic support that is integrated, accessible, and effective. The Student Success Center provides a variety of student-centered programs that help students to be successful in their academic and professional goals. To participate in any of our programs, visit our website at www.uah.edu/ssc or call 824-2478.

**SSC Programs:**

**Academic Recovery and Early Alert Program**

The Academic Recovery and Early Alert Program is committed to the success of students by providing a support for developmental and academic success. The adjustment from high school to college is a difficult transition in many cases, and the Academic Recovery and Early Alert Program provides resources to ease the transition. Academic Success Coordinators initiate a series of meetings to help students learn how to study, to define coping strategies, and to develop an individual Academic Success Plan. These services are usually provided through one-on-one and small group appointments, but the program also offers campus community programming in several areas which include, but are not limited to, learning styles, time management, study skills, goal setting and motivation. Whether students want to stay ahead or are feeling a little behind, seeking support from this program will enhance academic success. The program is located in the Student Success Center at Madison Hall Suite 111. For more information, call the Student Success Center at 824-2478.

**Career Development**

The Career Development Program offers a comprehensive career development process that includes career counseling, assessment, job search acquisition, on and off campus recruiting, cooperative education and multiple experiential learning options for students. Students can receive career counseling along with a variety of career assessment tools to assist students and graduates to discover their individual abilities, interests and values, and relate these factors to relevant career choices and majors. Cooperative and experiential education options include paid alternating parallel assignments and internships related to students’ fields of study. Participating students gain practical, professional work experience. Services are open to all undergraduate and graduate students. These programs promote, develop and expand applied learning options throughout the university. The program works collaboratively with all colleges, departments, and corporate relations/advancement. Career Development seeks to provide students and alumni with the knowledge to make informed career choices and the personal skills to reach their career objectives. The program is located in the Student Success Center at Madison Hall Suite 118. For more information, visit our websites at www.UAH.edu/coop, www.UAH.edu/careerservices or call the Student Success Center at 824-2478.

**General College Advising**
The General College Advisement Program offers academic advisement for students who are undecided about a major, for students who participate in Dual Enrollment and Early Start programs, for students who are nondegree seeking or transient, and for all conditionally admitted students regardless of major. The program is located in the Student Success Center at Madison Hall Suite 108. For more information or to speak with an advisor call 824-6290.

PASS Program

The Peer Assisted Study Session (PASS) Program provides academic support for students enrolled in specifically designated 100 and 200 level classes that are considered historically difficult. Working with the faculty who teach those classes, the program hires undergraduate peer leaders who have been successful in the class to re-attend the class along with currently enrolled students and then facilitate group study sessions three times per week. PASS leaders complete a rigorous training program, and they work toward tutor certification through the College Reading and Learning Association. Their goal is to work with students not only on content, but also on study and learning strategies. Students can participate in PASS by registering for classes coded with a P in the schedule of classes. To find out more about the program, students can visit arc.uah.edu or call 824-2478. The program is housed in the Student Success Center at Madison Hall Suite 110 and 111.

Tutoring Program

The Tutoring Program offers tutoring in over 100 subjects, focusing mostly on freshman and sophomore level classes. Peer tutors offer face-to-face tutoring in the tutoring office at Madison Hall Suite 123 and in the Central Campus Residence Hall (CCRH) in the evenings. The Tutoring Program also offers online tutoring in the evenings. Tutors complete a rigorous training program and work toward tutor certification through the College Reading and Learning Association. Their goal is to work with students not only on content, but also on study and learning strategies so that students can become independent learners. Tutoring sessions are one hour in length and students can make appointments by going to arc.uah.edu or by calling 824-2478. The program is housed in the Student Success Center at Madison Hall Suite 123.

Writing Center

The Writing Center, located in Morton Hall, is designed to increase opportunities for student centered learning through peer tutoring. Students work one-on-one and in small groups to help each other understand college-level assignments; plan, organize, revise, and edit papers; prepare oral presentations; and develop critical thinking skills. The Writing Center is open to all students. For more information, call 824-2363.

College Academic Support Centers

General College Academic Advisement Center

This center offers academic advisement for students who are undecided about a major, for dual enrollment and early start students, for non-degree seeking students, and for conditionally admitted students. The office is located in 108 Madison Hall. Contact Ms. Jamie Clay, Coordinator at 824-6290 (clayj@uah.edu).

College of Administrative Science
The Office of Academic Assistance is located in the Administrative Science Building, room 102, and is directed by Ms. Bernice Pitsis-Rush (824-6024). Advisement and tutoring arrangements may be obtained through this office. Administrative Science faculty are available for assistance during scheduled office hours. Computer labs are located on the second floor of ASB in rooms 207, 214 and 215.

**College of Engineering**

The College of Engineering Student Affairs Office is located in the Engineering Building, room 157. Under the direction of the Associate Dean, Dr. Sherri Messimer, the office offers comprehensive advising services and coordinates tutoring when requested. Phone 824-6877 for information.

**College of Liberal Arts**

The Liberal Arts Academic Advisor, Mr. Frank Bell, is located in Morton Hall 220. Liberal Arts students who have not filed a Program of Study must meet with Mr. Bell for schedule planning before registering. Call for an appointment at 824-2867 (bellf@uah.edu). The college maintains a student computer lab in the Salmon Library. In addition, there is a Foreign Language Lab in Morton Hall 300, a Sociology Library in MH 344, and a Women’s Studies Resource Center in MH 254.

**College of Nursing**

The Office of Nursing Student Affairs is located in room 207 of the Nursing Building, and is directed by Ms. Laura Mann (824-6742, mannl@uah.edu). Nursing students should visit the office for advisement and other academic needs. The college also maintains a Learning Resource Center on the fourth floor of the Nursing Building, directed by Ms. Andrea Payne (824-6139, paynea@uah.edu).

**College of Science**

The Science Academic Advisor, Ms. Morgan Lewis (824-6605, lewism@uah.edu) is located in the Materials Science Building room 206C. Advising is provided for students until they declare a major, after which they are assigned to a departmental advisor. Each department in the College of Science provides its own student services, including tutoring. Information can be obtained in the departmental offices. There are, however, specialized support centers maintained by the college. They include:

**Mathematics Learning Center**

The Mathematics Learning Center (MLC), located on the second floor of the Salmon Library, is the center for computer assisted instruction in mathematics. MA 004 (Basic Algebra), and MA 112 (Precalculus Algebra) are taught in a computer assisted format, with a mixture of traditional lecture and individual work in the MLC. The MLC is open only to current MA 004 and MA 112 students. It opens approximately 40 hours per week and is staffed by mathematics faculty, graduate teaching assistants, and undergraduate student assistants with a math major.

**Mathematics Tutoring Center**

The Mathematics Tutoring Center provides tutoring in MA 107, MA 110, MA 113, MA 115, MA 120, MA 171, and MA 172. The tutoring center is conveniently located in the Shelby Center for Science and Technology where most of the mathematics courses are taught, and is staffed by graduate assistants. The hours of the tutoring center vary from
Mathematics Computer Laboratory

The Mathematics Computer Laboratory has approximately 20 computers equipped with a variety of mathematical software packages including Maple, MATLAB, and various tutorial programs. Located in the Applied Science Building, the Mathematics Computer Lab is open only to students enrolled in math courses, and a student ID is required in the Lab. It is open approximately 35 hours per week and is staffed by undergraduate student assistants. For more information, please call the Mathematical Sciences Department at 824-6470, or visit our website at http://www.math.uah.edu.

Calculus Workshop

The Calculus Workshop is provided for students in MA 171 (Calculus A), MA 172 (Calculus B), and MA 201 (Calculus C). The workshop is designed to follow the schedule of these classes, providing additional practice for current topics as well as emphasizing the connections and relationships to past topics. Students work on problems that range from basic to challenging. The methods employed are varied, from whole group and guided practice to small group and individual work. The goal of the workshop is to help improve students’ understanding of calculus concepts and improve problem-solving skills. Students who have attended the workshop in the past have consistently done better in their calculus classes than students who have not attended. For more information, please call the Mathematical Sciences Department at 824-6470, or visit our web site at http://www.math.uah.edu.

Physics Success Center

The Success Center exists to provide a central location (Optics Building 200) from which students in the physical sciences can seek guidance from experienced tutoring personnel free of charge. The center is supported by Physics Department faculty and provides supplementary class materials as well as on-going tutoring.

Programs of Study

Bachelor of Science in Business Administration

Bachelor of Science in Business Administration, BSBA,
General Education and Graduation Requirement

Degree Requirements
The Bachelor of Science in Business Administration degree program is a comprehensive four-year program which includes a liberal arts and science foundation, a business administration core curriculum, a major, and a choice of elective courses.

The undergraduate curriculum is divided into the lower and upper division. The lower division is the first two years of courses (courses numbered 100-299); the upper division is the last two years (courses numbered 300-499). Prior to taking their first courses in the upper division, students must be admitted to the upper division. To prepare students for the challenges of the future, the College’s program provides a solid foundation in the diverse academic disciplines related to the needs of business, industry, and government. At the undergraduate level students concentrate the first two years of study on general course work in composition, the humanities and fine arts, history, social and behavioral sciences, and natural and physical sciences and mathematics. Successful completion of these courses broadens intellectual awareness and enhances the development of cultural literacy and analytical thinking. This general education component, along with the pre-professional business administration core curriculum, prepares the student for admission to upper-division course work in the College of Business Administration.

The remaining two years of course work develops the student’s understanding of the diverse functions of business in the U.S. and world-wide economy. This is accomplished by studying the essential concepts of business administration as well as focusing on one of the major disciplines. The student may declare a major in accounting, finance, management, management information systems, or marketing. Students enrolling in the College’s programs who have already chosen the major they wish to pursue may designate that major when they register. Students who are undecided about what major they wish to pursue should indicate Management in the registration process.

To be awarded a BSBA degree, each student must meet the following degree requirements established by the university and the faculty of the College of Business Administration:

1. Complete the lower-division general education requirement;
2. Complete the lower-division pre-professional business administration core curriculum;
3. Complete the upper-division general education requirement;
4. Complete the upper-division business administration core curriculum;
5. Complete the courses required for the major;
6. Complete a minimum of 128 semester hours of work with a minimum of 39 semester hours in courses numbered 300 and above;
7. Attain a minimum grade point average of 2.0 (C) in all course work attempted;
8. Attain a minimum grade point average of 2.0 (C) in the business administration core curriculum (42 hours).
9. Attain a minimum grade point average of 2.0 (C) in the major.
10. Complete the Competitive Strategy course (MGT 499) with a minimum grade of “C”; and
11. Comply with University and College of Business Administration residence requirements.

Three levels of requirements must be completed in order to receive the Bachelor of Science in Business Administration degree: (1) university general education and graduation requirements, (2) College of Business Administration core requirements, and (3) College of Business Administration major requirements. The recommended sequence of courses is presented in the following sections.

Lower Division Requirements: 62 Semester Hours

The lower-division courses provide a foundation for advanced study. While students broaden their intellectual background through the general education requirements, they also develop basic business skills in the pre-professional business administration core curriculum. The general education requirements expose students to composition, humanities and fine arts, natural sciences and mathematics, and history, social and behavioral sciences.

I. Lower Division General Education Requirements
1. English Composition I & II (EH 101-102)* 6 hrs

2. Humanities and Fine Arts
   a. Survey of Literature** 6 hrs
   b. Fine Arts 3 hrs
   c. Humanities Electives 3 hrs

Recommended: Introduction to Ethics (PHL 202)

3. Natural Sciences and Mathematics
   a. Laboratory Science*** 8 hrs
   Choose biology, chemistry, environmental science or physics
   b. Mathematics (MA 107 and 120)**** 6 hrs

4. History, Social and Behavioral Sciences
   a. History 3 hrs
   b. Psychology, sociology, or anthropology 3 hrs
   c. Macro and Micro Economics (ECN 142 and 143) 6 hrs

Total General Education Requirements 44 hrs

Note(s):

* A grade of C or higher must be obtained in EH 101 and 102.

**Must take a 6-hour sequence in any literature.

***Students who have completed 10 quarter hours (or 6.6 semester hours) of laboratory science will be considered to have met this requirement.

****Students may select MA 107 or 112. MA 107 is recommended for business students.

Students should note that MA 107 may not be accepted as transfer credit by other institutions in Alabama if they transfer from UAHuntsville before completing MA120. If they transfer after completing MA 120 there is no
transferability problem. ACT Mathematics Placement: Students scoring below 20 on the quantitative section of the
ACT will be required to pass MA 004 (Basic Algebra) before enrolling in MA107 or 112. Students scoring 26 or higher
should enroll in MA 120 and choose 3 hours of electives outside the College of Business Administration. Mathematics
Placement Test: Students scoring sufficiently high on a mathematics placement test at UAHuntsville may skip MA 107,
112 and/or MA004. Students placing at Level III on the placement test should enroll in MA 120 and choose 3 hours of
electives outside the College of Business Administration.

II. Pre-professional Business Core Curriculum

- IS 146 - Computer Applications in Business
- MSC 287 - Business Statistics I
- MSC 288 - Business Statistics II
- BLS 211 - Legal Environment of Business
- ACC 211 - Financial Accounting
- ACC 212 - Management Accounting

Total Pre-professional Business Administration Core Curriculum 18 Semester Hours
Total Lower-division Requirements 62 Semester Hours

Upper Division Requirements: 66 Semester Hours

Work in the last two years of study builds upon the foundation established by the general education requirements and
the pre-professional business administration core curriculum. Upper-division requirements include upper-division
general education courses, the business administration core curriculum, and courses in the major. Registration for
courses in the upper-division is restricted. Please read the College’s section, “Admission to the Upper-Division.”

III. Upper Division General Education Requirements

- EH 300 - Strategies for Business Writing *
- CM 313 - Business and Professional Communication

Economics Requirement**
- ECN 340 - Macroeconomic Analysis
- ECN 345 - Microeconomic Analysis
- ECN 406 - Sports Economics
- ECN 454 - International Economics
- ECN 475 - Economics of Labor Markets and Human Resources

Total Upper Division General Education Requirements 9 Semester Hours

Note(s):
*It is recommended that EH 300 be taken the first semester of the Junior year.

**For the Upper Division economics requirement a student may not choose an economics course required in their major.

IV. Upper Division Business Administration Core Curriculum

- FIN 301 - Principles of Finance
- MGT 301 - Managing Organizations
- IS 301 - Information Systems in Organizations
- MKT 301 - Principles of Marketing
- MSC 385 - Production/Operations Management
- MGT 450 - International Business *
- MGT 499 - Competitive Strategy
  Business Elective** 3 Semester Hours
  Total Business Administration Core Curriculum 24 Semester Hours

Note(s):

*International Business Requirement. Business majors acquire a broad knowledge of international business and economic theories, problems and practices through taking MGT 450 and through the integration of global issues in the business administration core curriculum.

**Accounting majors should identify the specific course they need to fulfill the Upper Division elective requirement. See sections on each Accounting concentration. Information Systems majors in the Information Assurance concentration are required to take an IS elective as their upper division business elective.

V. Major (each major is described below) 21 Semester Hours

VI. Free electives* 12 Semester Hours

| Total Upper Division Requirements | 66 hrs |
| Total minimum hours for a B.S.B.A. Degree | 128 hrs** |

Note(s):

*Because IS 401 is 2 hrs, IS majors in the Information Assurance concentration must take 13 hours of free electives.

**No more than 6 hours of HPE activity and music ensemble courses may count toward graduation.

Finance, BSBA
Finance careers vary widely in today’s complex, global economy. The finance curriculum equips graduates with the modern analytic principles of the discipline that prepare them to function in a wide variety of institutional settings. The 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 and all its personnel, making multimillion 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.

Students considering the professional certification examinations upon graduation, such as the Certified Cash Manager, Certified in Financial Management, the Certified Management Accountant (CMA), Certified Financial Planner, or Chartered Financial Analyst, may need course work beyond the minimum requirements for the BSBA degree. Students are encouraged to identify the special requirements early in their academic careers.

The Department of Accounting and Finance offers four finance concentrations for the BSBA degree: General Finance; Corporate Finance; Investments and Financial Institutions; Banking and Financial Institutions; and Federal Contract Management. The finance major is offered only during the day.

Requirements for a major in finance within the BSBA degree are as follows:

**General Finance**

- FIN 375 - Financial Institutions
- FIN 378 - Intermediate Corporate Finance
- FIN 431 - Advanced Corporate Finance
- FIN 460 - Investments
- FIN 461 - Portfolio Management
- FIN 454 - International Finance
- Elective* 3 Semester Hours

21 Semester Hours

*Choose one of the following: ACC 310, ACC 313, ACC 414, ECN 340, ECN 345, ECN 352, ECN 475, MGT 401, MGT 403, MGT 406.

**Corporate Finance Concentration** (a double major with Accounting is recommended.)

- FIN 375 - Financial Institutions
- FIN 378 - Intermediate Corporate Finance
- FIN 431 - Advanced Corporate Finance
- FIN 460 - Investments
• FIN 454 - International Finance  
• ACC 310 - Intermediate Financial Accounting I  
• ACC 414 - Cost Accounting

21 Semester Hours

Investments and Financial Institutions Concentration

• FIN 375 - Financial Institutions  
• FIN 454 - International Finance  
• FIN 378 - Intermediate Corporate Finance  
• FIN 431 - Advanced Corporate Finance  
• FIN 460 - Investments  
• FIN 461 - Portfolio Management

Major Elective 3 Semester Hours
• MKT 315 - Sales Management and Professional Selling  
• MKT 420 - Services Marketing  
• MKT 332 - Buyer Behavior  
or  
• ACC 414 - Cost Accounting

21 Semester Hours

Federal Government Finance and Contracts Concentration*

• ACC 440 - Basic Governmental Contract Accounting  
• ACC 441 - Advanced Government Contract Accounting  
• FIN 375 - Financial Institutions  
• FIN 378 - Intermediate Corporate Finance  
• FIN 431 - Advanced Corporate Finance  
• FIN 454 - International Finance

Major Elective 3 Semester Hours
• MGT 401 - Introduction to Contract Management  
• MGT 403 - Contract Pricing and Cost Analysis  
• MGT 406 - Government Contract Law
21 Semester Hours

*ACC 414, Cost Accounting, should be taken as the Upper Division Business elective.

General Accounting, BSBA

Requirements for a major in accounting within the BSBA degree are as follows:

- ACC 307 - Accounting Information Systems
- ACC 310 - Intermediate Financial Accounting I
- ACC 311 - Intermediate Financial Accounting II
- ACC 313 - Individual and Small Business Income Taxes
- ACC 414 - Cost Accounting
- ACC 431 - Principles of Auditing
- Accounting elective 3 Semester Hours

21 Semester Hours

*Students planning to sit for the CPA examination are advised to take one of the two CPA preparatory concentrations. Students should take any Accounting elective as their Upper Division Business elective.

4 + 1 CPA Preparatory with an Emphasis in Assurance and Financial Reporting

The 4 + 1 program (4 years of undergraduate study plus 1 year of graduate study ending with the Master of Accountancy) in the assurance and financial reporting concentration prepares students for the CPA exam and for teaching at the community college- or university-level.

Course Work

- ACC 307 - Accounting Information Systems
- ACC 310 - Intermediate Financial Accounting I
- ACC 311 - Intermediate Financial Accounting II
- ACC 313 - Individual and Small Business Income Taxes
- ACC 414 - Cost Accounting
- ACC 431 - Principles of Auditing
- ACC 432 - Advanced Auditing
21 Semester Hours

*Students planning to sit for the CPA examination are advised to take BLS 411 as a free elective. ACC 433, Forensic Accounting, should be taken as the Upper Division Business elective.

The graduate-level courses are as follows:

Select two of the following:

Additional Information

To receive the Certificate in Public Accounting (CPA) an applicant must have a minimum of 150 semester hours. See the web page of the Alabama State Board of Public Accountancy: http://asbpa.state.al.us/exam.htm. Prior to taking the CPA examination, a rigorous review course may be necessary to improve one’s ability to pass the examination. ACC 480 provides a thorough and complete examination and review of each of the four areas of the Accounting Standards and Procedures (Regulation, Business Environment and Concepts, Financial Accounting and Reporting, Auditing and Attestation).

4 + 1 CPA Preparatory with an Emphasis in Taxation

The 4 + 1 program (4 years of undergraduate study plus 1 year of graduate study ending with the Master of Accountancy) in the taxation concentration prepares students for the CPA exam and for teaching at the community college- or university-level.

Course Work

- ACC 307 - Accounting Information Systems
- ACC 310 - Intermediate Financial Accounting I
- ACC 311 - Intermediate Financial Accounting II
- ACC 313 - Individual and Small Business Income Taxes
- ACC 414 - Cost Accounting
- ACC 413 - Corporation, Partnership, and Estate Taxes
- ACC 420 - State and Local Taxation
- ACC 431 - Principles of Auditing

21 Semester Hours

*Students planning to sit for the CPA examination are advised to take BLS 411 as a free elective.
*ACC 420, State and Local Taxation, should be taken as the Upper Division Business elective.

4 + 1 CPA Preparatory with an Emphasis in Taxation

The graduate-level courses are as follows:

Select two of the following:

Additional Information

To receive the Certificate in Public Accounting (CPA) an applicant must have a minimum of 150 semester hours. See the web page of the Alabama State Board of Public Accountancy: http://asbpa.state.al.us/exam.htm. Prior to taking the CPA examination, a rigorous review course may be necessary to improve one’s ability to pass the examination. ACC 480 provides a thorough and complete examination and review of each of the four areas of the Accounting Standards and Procedures (Regulation, Business Environment and Concepts, Financial Accounting and Reporting, Auditing and Attestation).

Federal Contract Accounting*

- ACC 307 - Accounting Information Systems
- ACC 310 - Intermediate Financial Accounting I
- ACC 311 - Intermediate Financial Accounting II
- ACC 414 - Cost Accounting
- ACC 431 - Principles of Auditing
- ACC 440 - Basic Governmental Contract Accounting
- ACC 441 - Advanced Governmental Contract Accounting

21 Semester Hours

*Take one of the following for the Upper Division Business elective: MGT 401 (Intro to Contract Management), MGT 403 (Contract Pricing & Cost Analysis), MGT 406 (Government Contract Law), or ACC 495 (Internship in Accounting).

Information Systems, BSBA

The major in information systems (IS) is designed for students who want to become administrators or designers of information systems that utilize computers in a business or administrative environment. IS subject matter includes computer hardware, computer software, database design, data communication, electronic commerce, systems analysis and design methodologies, behavioral issues and the business or administrative context within which computer systems are applied. In the BSBA in Information Systems students may choose one of three concentrations. These include Systems Analyst, ERP/Supply Chain, and Information Assurance. The College offers a Master’s degree in Information
Requirements for a major in Information Systems within the BSBA degree are as follows:

**Systems Analyst Concentration**

- IS 210 - Introduction to Computer Programming in Business
- IS 310 - Advanced Computer Programming in Business
- IS 340 - Databases for Management
- IS 420 - Electronic Commerce
- IS 460 - Telecommunications and Networking
- IS 497 - Information Systems Design and Implementation
  Upper Division IS elective 3 Semester Hours

21 Semester Hours

**ERP/Supply Chain Concentration**

- IS 210 - Introduction to Computer Programming in Business
- IS 310 - Advanced Computer Programming in Business
- IS 340 - Databases for Management
- MKT 410 - Transportation and Logistics
- MGT 411 - Supply Chain Management
- IS 422 - Supply Chain Management Systems
  Upper Division IS elective 3 Semester Hours

21 Semester Hours

**Information Assurance Concentration***
• IS 210 - Introduction to Computer Programming in Business
• IS 310 - Advanced Computer Programming in Business
• IS 340 - Databases for Management
• IS 401 - Introduction to Information Assurance
• IS 460 - Telecommunications and Networking
• IS 463 - Computer Forensics
• IS 477 - Network Defense and Operating Systems

21 Semester Hours

Note(s):

*IS majors in the Information Assurance concentration must take an IS elective as their Upper Division business elective.

Management, BSBA

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 or governmental organizations. Students may elect one of four potential concentrations.

The Human Resource Management concentration focuses on the various functions of personnel administration, in addition to organizational behavior and labor relations. This concentration would be appropriate for students planning to enter positions as a personnel staff specialist, training director, wage and salary specialist, employment manager, benefits administrator, and industrial relations supervisor.

The Acquisition Management concentration focuses the management of government contracts in the aerospace and defense industries. 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 with the Federal government or in similar positions with government contractors.

The Supply Chain Management concentration focuses on transportation, logistics, inventory management, distribution operations, information systems as applied to supply chain integration, and strategic decision making in the management of a firm’s supply chain. The concentration is designed to prepare students for with the Department of Defense.

The fourth concentration is in General Management. This 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 entrepreneurial careers in small business or careers in international business may wish to plan their program of study to accommodate such career goals.

Requirements for a major in Management within the BSBA degree are as follows:
Human Resource Management Concentration:

- MGT 361 - Organizational Behavior
- MGT 363 - Human Resource and Labor Relations Management
- MGT 460 - Employee Staffing and Development
- MGT 462 - Employment Law for Managers
- ECN 475 - Economics of Labor Markets and Human Resources

Business Administration 6 Semester Hours
Electives

21 Semester Hours

Acquisition Management Concentration:

- MGT 361 - Organizational Behavior
- MGT 363 - Human Resource and Labor Relations Management
- MGT 401 - Introduction to Contract Management
- MGT 403 - Contract Pricing and Cost Analysis
- MGT 406 - Government Contract Law

Business Administration Electives 6 Semester Hours
Electives

21 Semester Hours

Supply Chain Management Concentration:

- MGT 361 - Organizational Behavior
- MGT 363 - Human Resource and Labor Relations Management
- MKT 410 - Transportation and Logistics
- MGT 411 - Supply Chain Management
- IS 422 - Supply Chain Management Systems

Business Administration Electives 6 Semester Hours
21 Semester Hours

General Management Concentration:

- MGT 361 - Organizational Behavior
- MGT 363 - Human Resource and Labor Relations Management
  Management electives 6 Semester Hours
  Business Administration Electives 9 Semester Hours
  Electives

21 Semester Hours

Marketing, BSBA

A major in marketing allows those students with interests in developing and promoting products and services to gain the knowledge and skills needed to pursue careers in marketing management, product management, marketing research, advertising, sales, internet marketers, supply chain management and acquisition. Since marketing is such a diverse area, the curriculum has been divided into three concentrations.

The marketing management concentration focuses on the marketing activities involved in the producer-customer exchange process. In order for businesses to successfully complete this process, they need to consider things such as buyer behavior, channels of distribution, promotional activities, product development and relationship management. Marketing managers also conduct market research to investigate customer needs and determine appropriate marketing strategies. Marketing managers are responsible for the total development process for a firm’s products and services. With an emphasis on a high technology environment, this concentration prepares students for careers in a variety of business and public sector organizations.

The supply chain management concentration involves all areas of the supply chain, from planning to distribution. The supply chain concentration prepares marketing students 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 Acquisition Management concentration focuses on activities and programs designed to obtain from suppliers the services and materials necessary to produce products and services. The program focuses on the management of government contracts in the aerospace and defense industries. It includes contract administration, cost and price analysis, contract negotiation, and government contract law. This concentration prepares marketing students for entry level professional positions in acquisition with the Federal government, government contractors and traditional industries.

Requirements for a major in marketing within the BSBA degree are as follows:
Marketing Management Concentration:

- MKT 332 - Buyer Behavior
- MKT 343 - Marketing Research Design
- MKT 414 - Marketing Emerging Technologies
- MKT 480 - Marketing Management
- Marketing electives 9 Semester Hours

21 Semester Hours

*Students are encouraged to use one of their electives for an internship

Supply Chain Management Concentration:*

- MKT 332 - Buyer Behavior
- MKT 343 - Marketing Research Design
- MKT 414 - Marketing Emerging Technologies
- MKT 480 - Marketing Management
- MKT 410 - Transportation and Logistics
- MGT 411 - Supply Chain Management
- IS 422 - Supply Chain Management Systems

21 Semester Hours

*Students are encouraged to use one of their electives for an internship

Acquisition Management Concentration:*

- MKT 332 - Buyer Behavior
- MKT 343 - Marketing Research Design
- MKT 414 - Marketing Emerging Technologies
- MKT 480 - Marketing Management
- MGT 401 - Introduction to Contract Management
- MGT 403 - Contract Pricing and Cost Analysis
- MGT 406 - Government Contract Law

21 Semester Hours
* Students are encouraged to use one of their electives for an internship

The Marketing major is offered only during the day.

**Master of Accountancy**

**Master of Accountancy, MAcc**

The Master of Accountancy program provides students with an academically rigorous course of study in accounting necessary for successful careers in professional accountancy in public, private, not-for-profit, and federal government accounting. Students have the flexibility to become educationally prepared for recognized certifications.

The program is designed to satisfy the 150 semester hours required by the Alabama State Board of Public Accountancy for Certified Public Accountant (CPA) examination candidates. The program exceeds the educational requirements for membership in the American Institute of Certified Public Accountants (AICPA), as well as those to sit for the Certified Management Accountant (CMA) and Certified Internal Auditor (CIA) examinations.

Qualified undergraduate accounting graduates may be able to complete the requirements for the MAcc degree in one additional year of full-time course work beyond the bachelor’s level, in what is called the 4 + 1 program. Individuals interested in the MAcc program should contact the Graduate Programs Director 102 Business Administration Building, (256) 824-6681, gradbiz@uah.edu. For more information on the MAcc program, refer to the UAHuntsville Graduate Catalog. For information on the 4 + 1 program, refer to the UAHuntsville Undergraduate Catalog.

**Master of Science in Information Systems**

**Master of Science in Information Systems, MS-IS**

The purpose of the MS-IS program is to provide students with advanced preparation as a specialist to enter a professional career involving the use, definition, analysis, design, implementation, and operation of management information systems. While the program will provide students with the background to enter the information technology (IT) profession in a wide variety of positions, the overall structure of the program is designed to provide students with the educational framework appropriate for a career leading to an executive level position in IT. With program prerequisites kept to a minimum of six courses, the MS-IS program is designed to meet the needs of students with a wide variety of educational backgrounds. Applicants with an undergraduate degree in IS generally have completed all course prerequisites. Applicants with degrees in other areas will likely have completed two or three of these course prerequisites. Individuals interested in the MS-IS program should contact the Graduate Programs Director 102 Business Administration Building, (256) 824-6681, gradbiz@uah.edu. For more information on the MS-IS program, refer to the UAHuntsville Undergraduate Catalog.

**Bachelor of Science/Master of Business Administration**

**4 + 1 Degree Program and Science & Technology Business Minor**
Students in UAHuntsville’s College of Science who have an interest in business are encouraged to consider the BS/MBA 4+1 Program. By following the outline of courses shown here, students can earn a minor in Business as part of their BS degree, and then earn their MBA graduate business degree in just one year instead of two.

Economics

Taken as part of Area IV “History, Social and Behavioral Sciences” requirements

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics

Calculus

Taken as part of Area V “Science or Engineering Course Outside the Major” if not taken in Area III or in the major or minor

Microcomputer Skills

Pre-MBA students must be proficient in the use of operating systems, word processing, spreadsheets, and presentation software. Deficiency in computer skills can be remedied by taking

- IS 146 - Computer Applications in Business
  or a combination of the one-hour courses:
  - IS 102 - Spreadsheet Applications
  - IS 104 - Word-processing I
  - IS 106 - Presentation Graphics

Statistics

Taken as part of Area V “Electives” requirement

- MSC 287 - Business Statistics I
  or
- MA 385 - Introduction to Probability and Statistics
  or
- ISE 390 - Probability and Engineering Statistics I

- MSC 288 - Business Statistics II
  or
- MA 487 - Introduction to Mathematical Statistics
  or
- ISE 391 - Probability and Engineering Statistics II

Pre-MBA Minor (Science & Technology Business Minor)*
• ACC 211 - Financial Accounting
• ACC 212 - Management Accounting
• BLS 211 - Legal Environment of Business
• MGT 301 - Managing Organizations
• MKT 301 - Principles of Marketing
• MSC 385 - Production/Operations Management

Total Minor Hours 18

Note(s):

*Students who are not interested in the BS/MBA 4 + 1 degree program may complete the 18 hours specified for the Science & Technology Business Minor.

4 + 1 Program, BS/MBA

Students in UAHuntsville’s College of Science who have an interest in business are encouraged to consider the BS/MSM 4+1 Program. By following the outline of courses shown here, students can earn a minor in Business as part of their B.S. degree, and then earn their M.S.M. graduate business degree in just one year instead of two.

I. Area IV Courses

Economics

Taken as part of Area IV “History, Social and Behavioral Sciences” requirements

• ECN 142 - Principles of Macroeconomics
• ECN 143 - Principles of Microeconomics

II. Area V Courses

Calculus

Taken as part of Area V “Science or Engineering Course Outside the Major” if not taken in Area III or in the major or minor.

Microcomputer Skills
Pre-MSM students must be proficient in the use of operating systems, word processing, spreadsheets, and presentation software. Deficiency in computer skills can be remedied by taking:

- CS 102 - Introduction to C Programming
- CS 103 - Introduction to Programming using Java
- CS 121 - Computer Science I
  (these courses may satisfy the BS GER requirement)
- IS 146 - Computer Applications in Business
  
or the combination of the one-hour courses:
- IS 102 - Spreadsheet Applications
- IS 104 - Word-processing I
- IS 106 - Presentation Graphics

**Statistics**

Taken as part of Area V “Electives” requirement

- MSC 287 - Business Statistics I
- or MA 385 - Introduction to Probability and Statistics
- or ISE 390 - Probability and Engineering Statistics I

- MSC 288 - Business Statistics II
- or MA 487 - Introduction to Mathematical Statistics
- or ISE 391 - Probability and Engineering Statistics II

**Certification**

**Accounting Certificate**

Many individuals express a desire to pursue a career in accounting after having earned a bachelor’s degree in a discipline other than accounting. The Accounting faculty recommends students enter the M.Acc. program whenever students meet the admission requirements. See the UAHuntsville Graduate Catalog. For students unable to meet the admission requirements, UAHuntsville offers a Certificate in Accounting program with three options, as described below:

1. General Accounting Option–For individuals with a career interest in accounting who do not plan to sit for professional certification examinations.
2. Management Accounting Option–For individuals with a career interest in management accounting who plan to sit for the Certified Management Accountant examination.
3. Public Accounting Option–For individuals with a career interest in public accounting who plan to sit for the Certified Public Accountant examination.
4. Federal Contract Accounting Option: For individuals with a career interest in federal contract accounting, planning to work for the federal government, federal government contractors, or CPA firms that audit government contractors.
Admission and Academic Standards for Accounting Certificate Candidates

Admission to the certificate in accounting program requires that the student hold a bachelor’s or master’s degree in any discipline from an accredited institution. The student must seek counsel from the College’s Office of Academic Assistance, and be admitted to UAHuntsville as a regular student before enrolling in the certificate in accounting program.

To receive a Certificate in Accounting, a student must complete the curriculum shown below for the applicable option. Credit for work done on a prior degree may be accepted for any course in any option. However, a minimum of 18 hours must be taken at UAHuntsville for the General Accounting Option and a minimum of 24 hours must be taken at UAHuntsville for the Management, Public Accounting Options and Federal Contract Accounting Options. At least 12 hours of the required UAHuntsville hours for any option must be in accounting courses. If necessary to meet the 18 or 24 hour requirement, electives may be selected from any 300 or 400 level course in the College of Business Administration or may be selected from outside the College with the approval of the department chair.

General Accounting Option

Business Curriculum:

- ACC 211 - Financial Accounting
- ACC 212 - Management Accounting
- BLS 211 - Legal Environment of Business
- ECN 143 - Principles of Microeconomics
- IS 146 - Computer Applications in Business
- MSC 287 - Business Statistics I

Total Business Curriculum 18 Hours

Accounting Curriculum:

- ACC 307 - Accounting Information Systems
- ACC 310 - Intermediate Financial Accounting I
- ACC 311 - Intermediate Financial Accounting II
- ACC 313 - Individual and Small Business Income Taxes
- ACC 414 - Cost Accounting
- ACC 431 - Principles of Auditing
Total Accounting Curriculum 18 Hours

Total Hours Required 36

Management Accounting Option

General Accounting Option Requirements 36 Hours, Plus:

- FIN 301 - Principles of Finance
- MGT 301 - Managing Organizations

Electives* 6 Semester Hours

Total Hours Required 48

Note(s):

*Electives may be selected from any 300- or 400-level course in the College of Business Administration or may be selected from outside the College with the approval of the department chair.

Completion of the Management Accounting Option, with a careful selection of electives, provides the basic educational background necessary to sit for the CMA examination. See the web page of the Institute of Management Accountants: http://www.imanet.org/. However, prior to taking the CMA examination, additional coursework or a rigorous preparatory course may be necessary in order to improve one’s ability to pass the examination.

Public Accounting Option

General Accounting Option Requirements 36 Hours, Plus:

- FIN 301 - Principles of Finance
- MGT 301 - Managing Organizations
- ACC 413 - Corporation, Partnership, and Estate Taxes
- ACC 415 - Advanced Financial Accounting
- ACC 417 - Accounting for State & Local Governments and Non-Profits
- ACC 432 - Advanced Auditing

ACC Elective 3 Semester Hours

- BLS 411 - Business Law for Accountants

Electives* 9 Semester Hours
Total Hours Required 69

Note(s):

*Electives may be selected from any 300- or 400-level course in the College of Business Administration other than accounting.

To receive the Certificate in Accounting–Public Accounting Option, a student must have a minimum of 150 semester hours from combined prior degree work and certificate work at UAHuntsville. If necessary to meet the total 150-hour requirement, electives may be selected from any 300 or 400 level course in the College of Business Administration or may be selected from outside the College with the approval of the department chair. Completion of the Public Accounting Option meets the requirements of the Alabama State Board of Public Accountancy to sit for the CPA examination in Alabama. See the web page of the Alabama State Board of Public Accountancy: http://asbpa.state.al.us/exam.htm. However, prior to taking the CPA examination, a rigorous review course may be necessary to improve one’s ability to pass the examination. ACC 480 provides a thorough and complete examination and review of each of the four areas of the Accounting Standards and Procedures (Regulation, Business Environment and Concepts, Financial Accounting and Reporting, Auditing and Attestation).

A student who has no course work from a prior degree that can be accepted toward the certificate program should seek counsel from the College’s Graduate Advisor to determine whether the MAcc is preferable to completing the certificate program or to determine whether a second bachelor’s degree in accounting is preferable to completing the certificate program.

Students may wish to concentrate elective hours in the area of Federal Contract Accounting. In areas of the country with a high concentration of federal government contractors, CPAs are frequently required to audit compliance with the Federal Acquisition Regulations, covered in the Federal Contract Accounting Option. Please see a list of relevant courses in the section on the Federal Contract Accounting Option below.

Federal Contract Accounting Option

This option is oriented toward individuals who wish to work in areas of the country with a heavy concentration of federal government contractors. Holders of the certificate may work for the federal government or federal government contractors. The expected large influx of positions available with the federal government and with its contractors is expected to coincide with the movement of the Army Materiel Command to Huntsville in 2010.

General Accounting Option Requirements 36 Hours, Plus:

- ACC 440 - Basic Governmental Contract Accounting
- ACC 441 - Advanced Government Contract Accounting
- Electives* 6 Semester Hours

Total Hours Required 48

Note(s):
Select from MGT 401, MGT 403, and MGT 406.

**Collaborative Teacher Endorsement (K-6 or 6-12 certification options)**

The Collaborative Teacher Program is designed to prepare teachers to better meet the diverse needs of all children, including those who have been determined to be exceptional and who receive services under the Individuals with Disabilities Education Act. Students in the Collaborative Program take courses that introduce them to a variety of exceptionalities and that help them become aware of the critical issues relevant to the delivery of services to exceptional children. Methods courses in this second area of study focus on developing assessment, instructional and behavioral management strategies tailored to the unique needs of the exceptional child. Students who complete the courses in the Collaborative Program are eligible to apply for dual certification in Special Education and in their chosen certification area (either K-6 Elementary Education or 6-12 Secondary Education teaching field). Each of the courses in the program includes a practicum in an inclusive classroom. The Collaborative Teacher Program is not a stand-alone program for either elementary or secondary education students.

**Program for Collaborative Teacher Area of Study**

**Elementary Education Candidates (K-6)**

In addition to completing the 53 hours of professional education courses for an elementary education candidate, individuals wanting to add certification in Collaborative Teacher – Special Education Program, must complete the following:

- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 302 - Introduction to Low Incidence Populations (Survey Part II)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
- EDC 321 - Collaborative Consultation (Parents, Teachers, Teams)
- EDC 331 - Critical Issues in Education: Behavioral, Medical, and Legal Issues
- EDC 341 - Transition of K-12 Students: Assessing to Inform Change
- EDC 351 - Behavior Analysis and Intervention

Total: 21 Hours

**Secondary Education-Collaborative Teacher Certification Candidates (6-12)**

Students who are seeking teacher certification for grades 6-12 may also add the Collaborative Teacher-Special Education program as a second area of study. Because programs of study for students seeking 6-12 certification vary greatly, students who choose to add the Collaborative Teacher area of study to their first teaching field (English, history, biology, etc.) should consult with the Certification Officer and the special education advisor in the Education Department. It is not possible to design an illustrative plan that would be appropriate; therefore individual programs of study will be developed for any student choosing to add the collaborative teacher area of study to their major teaching
Students should be aware that adding dual certification in the Collaborative Teacher at the secondary level will lengthen the time to degree.

- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 302 - Introduction to Low Incidence Populations (Survey Part II)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
- EDC 321 - Collaborative Consultation (Parents, Teachers, Teams)
- EDC 331 - Critical Issues in Education: Behavioral, Medical, and Legal Issues
- EDC 341 - Transition of K-12 Students: Assessing to Inform Change
- EDC 351 - Behavior Analysis and Intervention

Fitness and Wellness Credit Certificate

The HPE department offers a new credit certificate program in Fitness and Wellness. This program is an 8-semester hour commitment available to any UAHuntsville student.

The cornerstone course is

- HPE 240 - Health and Wellness Concepts

Along with HPE 240, simply choose one course from each of the following categories totaling at least 8-hours:

Exercise and Health Science

Group Fitness and Strength Training

- HPE 100 - Aerobics I
- HPE 101 - Aerobics II
- HPE 102 - Step Aerobics I
- HPE 103 - Step Aerobics II
- HPE 111 - Butts & Guts Workout
- HPE 112 - Fitball Conditioning
- HPE 113 - Body Sculpting
- HPE 117 - Weight Training I
- HPE 117 - Weight Training I for Women Only
- HPE 118 - Weight Training II
• HPE 118 - Weight Training II for Women Only
• HPE 119 - Weight Training III
• HPE 119 - Weight Training III for Women Only
• HPE 136 - Yoga

Sports

• HPE 109 - Speed & Plyometric Training
• HPE 120 - Beginning Swimming
• HPE 121 - Intermediate Swimming
• HPE 122 - Advanced Swimming
• HPE 150 - Beginning Racquetball
• HPE 151 - Intermediate Racquetball
• HPE 152 - Advanced Racquetball
• HPE 153 - Beginning Tennis
• HPE 154 - Intermediate Tennis
• HPE 155 - Advanced Tennis
• HPE 156 - Golf I
• HPE 157 - Golf II
• HPE 170 - Volleyball
• HPE 199 - Special Topics in HPE

Recreation

• HPE 110 - Walk, Jog, Run
• HPE 129 - Kung Fu
• HPE 130 - Beginning Karate
• HPE 131 - Intermediate Karate
• HPE 132 - Advanced Karate
• HPE 133 - Aikido
• HPE 134 - Tai Chi
• HPE 137 - Judo/Jujitsu
• HPE 140 - Beginning Ballroom Dance
• HPE 142 - Swing Dance
• HPE 143 - Latin Dance
• HPE 144 - Country/Western Dance
• HPE 167 - Rock Climbing
• HPE 170 - Volleyball
• HPE 172 - Beginning Bowling
• HPE 173 - Intermediate Bowling
• HPE 174 - Billiards
• HPE 199 - Special Topics in HPE
Foreign Language Teacher Education and Certification

Students seeking state teacher certification in elementary or secondary education may choose to pursue foreign language study. Those majoring in elementary education may utilize a foreign language (French, German, Russian, or Spanish) as a Second Area of Study for Elementary Teacher Education Candidates.

The cognate area in foreign languages includes the following courses:

Liberal Arts

- FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language I
- FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language II
- FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
- FL 202F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language II
- FL 301 - Conversation
- FL 302 - Composition
- FL 304 - Culture
- FL 305 - Introduction to Literature

Total: 24 Hours

Additional Information

Students seeking state teacher certification in middle/junior high school education or high school education, and whose primary field is foreign language, must conform to the requirements of a foreign language major. Completing FL 404 with a grade of C or better constitutes the teacher exit exam. The chair writes a memo to the Department of Education, the student, and the student’s file. For a second teaching field, students are required to complete the cognate area. Education students are advised to see the Department of Education’s catalog pages, and to consult the teacher certification officer in the UAHuntsville Department of Education.

Human Resource Management Certificate
The Certificate in Human Resource Management is designed to serve the needs of individuals who desire to pursue a career in human resource management or who are currently working in the field of human resource management after having earned a bachelor’s degree that did not allow them to specialize in human resource management.

**Admission Requirements for Certificate in Human Resource Management Candidates**

Admission to the certificate in human resource management program requires that the student hold a bachelor’s degree in a discipline other than human resource management. The candidate must secure the approval of the Chair of the Department of Management and Marketing and must be admitted to UAHuntsville as a regular post baccalaureate student before enrolling in the human resource management certificate program.

**Curriculum for Certificate in Human Resource Management**

To receive a certificate in human resource management, the student must complete the curriculum shown below with a grade of at least a “C” in each course to be applied to the certificate. A student may transfer a maximum of 6 semester hours toward the certificate.

- MGT 301 - Managing Organizations
- MGT 363 - Human Resource and Labor Relations Management
- MGT 460 - Employee Staffing and Development
- MGT 461 - Strategic Compensation Management
- MGT 462 - Employment Law for Managers

**Business Electives 9 Semester Hours**

Total Hours Required 24 Hours

**Middle/Junior High School Endorsement (4-8 certification)**

Middle School endorsements are available in the following fields.

<table>
<thead>
<tr>
<th>Biology</th>
<th>Chemistry</th>
<th>English Language Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Languages</td>
<td>General Science</td>
<td>History</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Physics</td>
<td>Social Sciences</td>
</tr>
</tbody>
</table>

The curriculum in middle/junior high school education is an endorsement that can be added to either an Alabama Class B Elementary or Class B Secondary program; it is not a stand alone program. Students may, at their option, add certification in the middle school, with additional coursework and an additional internship. This program is designed to prepare teachers especially trained in dealing with youngsters undergoing the developmental changes of late childhood, puberty, and early adolescence.

For individuals with K-6, certification, adding middle school endorsement would also permit teaching in grades 7 and 8 in the teaching field(s) for which the person has completed the requirements as otherwise outlined in this catalog.
Students with a major in elementary education (K-6 certification) must meet the following additional requirements: (1) ED 416 Middle and High School Methods Block, (2) the second area of study must be equivalent to the approved hours for the major*, (3) additional internship in grades 4-8.

*In order to meet the Highly Qualified Teacher status as a middle school teacher, the second area of study or teaching field would have to include a minimum of 32 hours with at least 19 at the upper division.

For a person with high school certification, adding middle school endorsement would also permit teaching in grades 4-5 in the teaching field(s) for which the person has completed the requirements. Additional requirements for students enrolled in the high school program (6-12) and seeking middle school endorsement are as follows: (1) additional internship in grades 4-8, and (2) a course in intermediate literacy.

STUDENTS SHOULD SEEK COUNSELING AS EARLY AS POSSIBLE. Advisors will be assigned in both professional education and in the teaching fields. The student will earn a B.A. or B.S. depending on the chosen field(s). Upon successful completion of the program and all related requirements, the student may request recommendation for the Alabama Class B Middle/Junior High School Certificate for grades 4-8.

P-12 Certification

Individuals who want to teach music may enroll in one of two music education programs (instrumental or vocal/choral). These programs lead to an Alabama Class B Certification for grades P-12. Individuals enrolled in a music program leading to certification will complete both music and education coursework. Preparation in the arts has traditionally been rigorous and extensive and these programs are no exception. Students should expect to take more than the minimum of 128 hours required for graduation. Early counseling with advisors is strongly recommended.

Program for Music Education Emphasis

Music Core:

200-Level Studio Instruction (4 x 1.5) (MUA 2_1) 6 Semester Hours
400-Level Studio Instruction (MUA 4_1) 1.5 Semester Hours
- MUA 498 - Senior Recital
- MUX 390 - UAHuntsville Choir or MUX 399 - UAHuntsville Wind Ensemble

Ensembles (3 credits) (MUA 39_) 3 Semester Hours
- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
- MU 201 - Theory of Music I
- MU 202 - Theory of Music II
- MU 301 - Theory of Music III
- MU 203 - Musicianship Skills I
- MU 204 - Musicianship Skills II
• MU 303 - Musicianship Skills III
• MU 311 - History of Music I
• MU 312 - History of Music II
• MU 325 - Conducting – 0 credit x 7 semesters

Total: 40 hours

Music Education Emphasis:

Secondary Instrument: 6 Semester Hours
• MU 302 - Musical Materials of the Modern Era
• MU 401 - Form and Analysis
• MU 416 - Orchestration
• MU 425 - Advanced Conducting
• MUE 328 - Teaching General Music
• MUE 428 - Vocal/Choral Methods for Secondary Schools
  Piano Proficiency Exam 0 Semester Hours

Total: 21 hours

Total Music Hours: 64

Total Hours: 64 Music + 54 Hours GER + 29 Hours Education = 147 Hours

Note(s):

*Students should consult the Education Department for advisement on professional education course requirements and refer to music section of this catalog.

Secondary/High School Education (6-12 certification)
The curriculum in high school education is planned to provide a broad liberal base, professional studies in high school teaching, and an in-depth study of a comprehensive field for the purpose of preparing teachers for service in senior high schools. Students may, at their option, also seek certification in middle/junior high school education, with additional coursework and internships. Preparation will be rigorous and will equip the teacher to work in the high school setting and to deal with adolescents. Students should seek advisement as early as possible. Advisors will be assigned in both professional education and in the teaching field(s). The student will earn a B.A. or B.S. depending on the field chosen. Upon successful completion of the program and all related requirements, the student may request recommendation for the Alabama Class B High School Certificate for grades 6-12.

Secondary Education 6-12 Teacher Preparation Programs Offered

<table>
<thead>
<tr>
<th>Biology B.A., B.S.</th>
<th>Chemistry B.S.</th>
<th>Physics B.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics B.A., B.S.</td>
<td>General Science B.A., B.S.</td>
<td>History B.A.</td>
</tr>
<tr>
<td>Foreign Language B.A.</td>
<td>English Language Arts B.A.</td>
<td>Social Science B.A.</td>
</tr>
</tbody>
</table>

(German, French, Spanish)

The major teaching field departments have selected specific courses as most appropriate for the preparation of teachers. The programs, including those courses listed for each major, have been approved by the Alabama State Department of Education for teacher certification in grades 6-12; therefore students choosing to teach in a high school setting should seek early advisement from the Education Department and the teaching field department in order to register for courses within the state approved program.

All secondary education candidates must complete the following professional education courses.

Professional Education Core

- ED 301 - Introduction to Education Practicum
- ED 305 - Foundations of Education in the United States
- ED 308 - Educational Psychology
- ED 309 - Classroom and Behavior Management
- ED 350 - Technology in the Classroom
- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students

Methods Courses

- ED 408 - Teaching Reading in the Content Area
- ED 410 - Foundations of Educational Evaluation
- ED 416 - Middle and Secondary Methods Block
• ED 497 - High School Internship

Internships and Seminar

Total: 40 hours

Teaching Field Course Requirements for Secondary Candidates

Program for Biology B.A./B.S. Certification

Biology Courses

• BYS 119 - Principles of Biology (GER)
• BYS 120 - Organismal Biology (GER)
• BYS 219 - Genetics and Evolution
• BYS 312 - Principles of Ecology
• BYS 321 - General Microbiology I
• BYS 300 - Cell and Developmental Biology
• BYS 490 - Senior Seminar
  BYS 300+ Electives 10 Semester Hours

Total: 36 hours

Ancillary requirements:

Chemistry:

Option 1
• CH 101 - Introduction to Chemistry
• CH 105 - Introductory Chemistry Laboratory (GER)

• CH 201 - Elementary Organic Chemistry
• CH 301 - Elementary Biochemistry

Option 2

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
• CH 336 - Organic Chemistry Laboratory II

• CH 361 - General Biochemistry I
• CH 362 - General Biochemistry Laboratory I

Physics:

• PH 101 - General Physics I (GER)
• PH 102 - General Physics II (GER)

OR

• PH 111 - General Physics with Calculus I (GER)
• PH 114 - General Physics Laboratory I (GER)

• PH 112 - General Physics with Calculus II (GER)
• PH 115 - General Physics Laboratory II (GER)

Ancillary Total: 19-32 hours
Note(s):

*CH 113 AND 301 if beginning with CH 101, 105—CH 331, 335 & CH 361, 362 if beginning with CH 121, 125

Program for Chemistry B.S. Certification

Chemistry Courses:

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 315 - Chemistry Teaching Methods
- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I
- CH 332 - Organic Chemistry II
- CH 341 - Physical Chemistry I or
- CH 347 - Biophysical Chemistry I
- CH 342 - Physical Chemistry II or
- CH 348 - Biophysical Chemistry II or
- CH 363 - General Biochemistry II or
- CH 421 - Instrumental analysis
- CH 361 - General Biochemistry I
- CH 401 - Inorganic Chemistry
- CH 345 - Experimental Physical Chemistry I or
- CH 362 - General Biochemistry Laboratory I or
- CH 402 - Inorganic Chemistry Laboratory

Total: 35 hours
Ancillary Courses

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- MA 171 - Calculus A
- MA 172 - Calculus B
- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology

Ancillary Total: 24 hours

Note(s):

*Students should consult with the Chemistry Education advisor if they wish to add American Chemical Society (ACS) certification.

Program for English Language Arts Certification

English Courses:

- Sophomore Survey (as described in the GER) 6 Semester Hours (GER)
- EH 360 - Shakespeare
- EHL 405 - Survey of General Linguistics: Applied English Linguistics I
- EH 400 - Composition Studies for Teachers
- EH 330 - American Literature through the Civil War
- EH 331 - American Literature from the Civil War to WWI
- EH 332 - American Literature from WWI to WWII
- EH 333 - American Literature from WWII to the Present
- EH 421 - Modern Drama
- EH 422 - Modern Novel
- EH 430 - The American Novel
- EH 431 - The American Novel
- EH 433 - William Faulkner
- EH 435 - Special Studies in American Literature
- EH 438 - African American Literature
- EH 439 - Ethnic American Novel

- EH 380 - Restoration and Early Eighteenth Century
- EH 381 - Later Eighteenth Century
- EH 390 - Romantic Poetry and Prose
- EH 391 - Victorian Poetry and Prose
- EH 418 - Representative Texts by Women Writers
- EH 420 - Modern and Contemporary Poetry
- EH 423 - Studies in Contemporary British Literature
- EH 440 - Special Studies in English Literature
- EH 450 - Chaucer
- EH 451 - Middle English Literature
- EH 460 - Sixteenth-Century Poetry and Prose
- EH 470 - Milton
- EH 471 - Renaissance Drama
- EH 492 - The Early English Novel
- EH 493 - The Victorian Novel
- EH 495 - The Literature of Transition with topic covering the novel

Literature elective (must be 300 level or above) 3 Semester Hours

One course in creative writing
- EH 410 - Fiction Writing
- EH 411 - Poetry Writing
- EH 412 - Special Topics in Writing may serve as the literature elective.

Communication Courses:

- CM 113 - Introduction to Rhetorical Communication
- CM 231 - Foundations of Human Communication
- CM 309 - History of Rhetoric
- CM 310 - Persuasion
- CM 316 - Legal Argument
- CM 122 - Theater Appreciation
- CM 221 - Acting
- CM 205 - Media Writing
- CM 430 - Mass Media in America: Theory and Criticism
Total: 48 hours

Program for Foreign Language Certification (French, German, or Spanish)

- FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language I (GER)
- FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language II (GER)
- FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
- FL 204 - International Cinema (Taught in English)
- FL 301 - Conversation
- FL 302 - Composition
- FL 303 - Foreign Language for Life and Professions
- FL 304 - Culture
- FL 305 - Introduction to Literature
- FL 404 - Texts and Contexts: Seminar in Literature
- FL 410 - International Internship

Total: 37 hours

Program for General Science B.A./B.S. Certification

Biology Courses: 32 Hours

- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology (GER)
- BYS 219 - Genetics and Evolution
- BYS 321 - General Microbiology I
- BYS 300 - Cell and Developmental Biology
- BYS 490 - Senior Seminar
  BYS 300+elect 10 Semester Hours
Chemistry Courses:

Option 1 OR 11 Hours

- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory (GER)
- CH 201 - Elementary Organic Chemistry
- CH 301 - Elementary Biochemistry

Option 2 20 Hours

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I
- CH 332 - Organic Chemistry II
- CH 336 - Organic Chemistry Laboratory II
- CH 361 - General Biochemistry I
- CH 362 - General Biochemistry Laboratory I

Physics Courses: 24 Hours

- PH 101 - General Physics I
- PH 102 - General Physics II (GER)

OR

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
  PH 115 - General Physics Laboratory II
- PH 113 - General Physics with Calculus III
  PH 116 - General Physics Laboratory III
- AST 106 - Exploring the Cosmos I (GER)
  AST 107 - Exploring the Cosmos II (GER)

Environment Science Courses: 12 Hours

- ES 101 (4) (GER), 102 (4) (GER); ES 312 / BYS 312 - Principles of Ecology

Math Courses for B.S.: 12 Hours

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C

Program for History Certification

- HY 101 - Western Civilization, Part I
- HY 102 - Western Civilization, Part II

OR

- HY 103 - World History to 1500
  HY 104 - World History from 1500 (GER)
- HY 221 - The United States to 1877
  HY 222 - The United States Since 1877
- HY 290 - Historical Methods
  HY Elective at 200 or above (optional) 3 Semester Hours
- HY 325 - History of Alabama
  HY 300 + electives 6 Semester Hours
  HY 400 + electives 6 Semester Hours
- HY 490 - Research Seminar in History
Total: 36 hours

Note(s):

Requirements for electives: 6 hours of American history beyond 221, 222. 6 hours of non-American history beyond 101, 102. 21 hours must be at the 300+ level.

Program for Social Science-History Certification

History Courses:

- HY 101 - Western Civilization, Part I
- HY 102 - Western Civilization, Part II
- HY 103 - World History to 1500
- HY 104 - World History from 1500 (GER)
- HY 221 - The United States to 1877
- HY 222 - The United States Since 1877
- HY 290 - Historical Methods
  HY Elective 200 or above (optional) 3 Semester Hours
- HY 325 - History of Alabama
  HY 300 + electives 6 Semester Hours
  HY 400 + elective 6 Semester Hours
- HY 490 - Research Seminar in History

Total: 36 hours

Other Social Science Courses:

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics
- GY 105 - World Regional Geography
- GY 110 - Principles of Human Geography
- PSC 101 - American Government
- PSC 102 - Comparative Politics and Foreign Governments
- PSC 260 - Introduction to International Relations
- PY 101 - General Psychology I
- PY 375 - Social Psychology

- SOC 100 - Introduction to Sociology
- SOC 105 - Introduction to Cultural Anthropology

Total: 33 hours

Note(s):

Requirements for electives: 6 hours of American history beyond 221, 222. 6 hours of non-American history beyond 101, 102. 21 hours must be at the 300+ level.

Program for Mathematics Certification (B.A.)

Mathematics Courses:

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 244 - Introduction to Linear Algebra
- MA 330 - Foundations of Mathematics
- MA 385 - Introduction to Probability and Statistics
- MA 442 - Algebraic Structures with Applications
- MA 433 - Introduction to Geometry
- MA 452 - Introduction to Real Analysis
- MA 487 - Introduction to Mathematical Statistics
- ST 487 - Introduction to Mathematical Statistics

MA electives, including one at 500+ level 6 Semester Hours

Total: 39 hours

Ancillary Courses:
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

• CS 102 - Introduction to C Programming *Required for B.S. Math

Program for Physics Certification

Physics Courses:

• PH 110 - Frontiers in Science
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

• PH 113 - General Physics with Calculus III
• PH 116 - General Physics Laboratory III

• PH 251 - Special Relativity
• PH 301 - Intermediate Mechanics
• PH 305 - Mathematical Methods in Physics
• PH 351 - Introduction to Modern Physics
• PH 499 - Physics Practicum

PH/OPT/AST 3xx or 4xx 2-3 Semester Hours
PH/OPT/AST 3xx or 4xx 3 Semester Hours

Total: 36-37 Hours

Ancillary Courses:

• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 244 - Introduction to Linear Algebra
• MA 238 - Applied Differential Equations

Total: 14 Hours

Bachelor of Science in Engineering

Chemical and Materials Engineering with Chemical Engineering Option, BSE

The objectives of the chemical engineering program are to prepare graduates to be successful leaders in their professional careers and to provide them with the skills needed to contribute to the economic advancement of firm, region, state, and nation, and are achieved by:

1. Gaining a basic core competence in the fundamentals of engineering to be able to identify problems or areas for process and/or product development, analyze alternatives, properly communicate, and efficiently implement changes and improvements.
2. Understanding economic impacts, deadlines, and commitments while respecting ethical, environmental, health, safety and security issues.
3. Recognizing that a lifetime of learning is essential for continuous improvement and a requisite for a successful engineer.

Chemical Engineering Option

To obtain a Bachelor of Science in Engineering degree with the chemical engineering option, students are required to take:

Additional Basic Sciences Semester Hours

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I
• CH 332 - Organic Chemistry II
• CH 341 - Physical Chemistry I

• BYS 201 - An introduction to Molecular Understanding of Biological Systems

Advanced science electives from approved area 7 Semester Hours
Engineering Core for Chemical Engineering

- CHE 197 - Computer Methods for Chemical Engineering
- CHE 244 - Introduction to Chemical Engineering Systems
- CHE 294 - Nature and Properties of Materials
- CHE 344 - Chemical Engineering Thermodynamics

Chemical Engineering Option (excluding Engineering Core):

- EE 213 - Electrical Circuit Analysis I
- MAE 271 - Statics
  or
- CE 271 - Statics
- CHE 295 - Nature and Properties of Materials Laboratory
- ISE 321 - Engineering Economy
- CHE 342 - Transport Phenomena
- CHE 347 - Quantitative Modeling for Chemical Engineers
- CHE 439 - Unit Operations Laboratory I
- CHE 440 - Unit Operations Laboratory II
- CHE 441 - Chemical Kinetics and Reactor Design
- CHE 443 - Mass Transfer Operations
- CHE 445 - Chemical Process Control
- CHE 446 - Analysis and Design of Transport Equipment
- CHE 448 - Chemical Engineering Design

Suggested Schedule of Courses for Full-time Chemical Engineering Student

First Year

Fall
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• MA 171 - Calculus A
• CHE 197 - Computer Methods for Chemical Engineering

HU/SS* 3 Semester Hours

• EH 101 - Freshman Composition

17 Semester Hours

Spring

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• MA 172 - Calculus B
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I
• EH 102 - Freshman Composition

15 Semester Hours

32 Total Semester Hours

Second Year

Fall

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I
• MA 201 - Calculus C
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II
18 Semester Hours

Spring

- CH 332 - Organic Chemistry II
- BYS 201 - An introduction to Molecular Understanding of Biological Systems
- MA 238 - Applied Differential Equations

18 Semester Hours

Third Year

Fall

- CH 341 - Physical Chemistry I
- CHE 294 - Nature and Properties of Materials
- ISE 321 - Engineering Economy
- MAE 271 - Statics
- CHE 295 - Nature and Properties of Materials Laboratory
- Sci Elect** 3 Semester Hours
16 Semester Hours

Spring

- CHE 344 - Chemical Engineering Thermodynamics
- CHE 342 - Transport Phenomena
- CHE 347 - Quantitative Modeling for Chemical Engineers
  Sci Elec** 3 Semester Hours
  Sci Lab 1 Semester Hour

16 Semester Hours

32 Total Semester Hours

Fourth Year

Fall

- EE 213 - Electrical Circuit Analysis I
- CHE 443 - Mass Transfer Operations
  Engr Elect*** 3 Semester Hours
- CHE 441 - Chemical Kinetics and Reactor Design
- CHE 446 - Analysis and Design of Transport Equipment
- CHE 439 - Unit Operations Laboratory I

17 Semester Hours

Spring
- CHE 440 - Unit Operations Laboratory II
- CHE 448 - Chemical Engineering Design
  HU/SS* 3 Semester Hours
- CHE 445 - Chemical Process Control
  Engr Elect*** 3 Semester Hours

14 Semester Hours

31 Total Semester Hours

Total Hrs. 131

*HU/SS-18 hours in humanities/social sciences.

**Sci Elec-Minimum of 7 hours from an approved area of concentration with courses 300-level or above. Approved areas of concentration currently include physical chemistry, biochemistry, polymer chemistry, and biophysical chemistry.

***Advanced engineering electives minimum of 6 hours of a 300-level or above course. The advanced engineering electives plus the 7 hours of advanced science electives are used to create two alternative sequences with a total of 13 credit hours each. These courses are necessary to develop depth in materials engineering and biotechnology.

Civil and Environmental Engineering, BSE

The objectives of the Civil Engineering Program are to:

1. Produce graduates who successfully obtain professional positions requiring a strong understanding in the traditional knowledge and skills of the civil engineering profession.
2. Produce graduates who are prepared to advance in the diverse Civil Engineering profession, and be successful in employment and academic opportunities.
3. Provide our graduates with an environment that facilitates professional, intellectual, and leadership skills necessary to lead a productive life and contribute to the economic advancement and quality of life of the region and global community.

Degree Requirements

To obtain a Bachelor of Science in Engineering, civil engineering students are required to take:

Additional Basic Sciences
• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

Engineering Core for Civil Engineering: 12 Semester Hours

• MAE 271 - Statics
• CE 271 - Statics
• ISE 321 - Engineering Economy
• MAE 341 - Thermodynamics I

Civil Engineering Option (excluding Engineering Core): 54 Semester Hours

• CE 101 - Prelude to Civil Engineering
• CPE 112 - Introduction to Computer Programming in Engineering
• CE 111 - Civil Engineering Graphics
• BYS 119 - Principles of Biology
• CE 272 - Dynamics
• CE 284 - Surveying
• CE 272 - Dynamics
• CE 370 - Mechanics of Materials
• CE 381 - Structural Analysis I
• CE 372 - Soil Mechanics
• CE 373 - Soil Mechanics Lab
• ISE 390 - Probability and Engineering Statistics I
• CE 422 - Traffic Engineering Design
• CE 441 - Hydraulic Engineering Design
• CE 449 - Introduction to Environmental Engineering
• CE 380 - Civil Engineering Materials
• CE 483 - Reinforced Concrete Design
• CE 485 - Foundation Engineering
• CE 498 - Civil Engineering Design I
• CE 499 - Civil Engineering Design II
• CE 499L - Laboratory Component of Civil Engineering Design II

Civil Engineering Concentration: 9 Semester Hours

Structural Engineering Concentration
- CE 481 - Structural Analysis II
- CE 473 - Earth Structures Engineering
- CE 487 - Bridge Design
- CE 484 - Steel Design

Environmental Engineering Concentration

- CE 456 - Water Quality Control Processes
- CE 457 - Hydrology
- CE 458 - Environmental Engineering Design

Transportation Engineering Concentration

- CE 384 - Advanced Surveying
- CE 411 - Introduction to Geographical Information Systems
- CE 420 - Urban Transportation Planning

General Civil Engineering:

Choose 9 hours from

- CE 411 - Introduction to Geographical Information Systems
- CE 420 - Urban Transportation Planning
- CE 456 - Water Quality Control Processes
- CE 457 - Hydrology
- CE 458 - Environmental Engineering Design
- CE 473 - Earth Structures Engineering
- CE 481 - Structural Analysis II
- CE 484 - Steel Design
- CE 487 - Bridge Design

subject to satisfactory completion of prerequisite requirements.

Note(s):

Courses with a CE prefix are typically offered once a year, except for Statics, Dynamics, and Mechanics of Materials. Civil engineering students are encouraged to seek the advice of a full-time civil engineering faculty member as soon as possible after their enrollment at UAHuntsville to ensure the timely completion of their program of study.
Suggested Schedule of Courses for Full-time Civil Engineering Students

First Year

Fall

- MA 171 - Calculus A
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CPE 112 - Introduction to Computer Programming in Engineering
- CE 101 - Prelude to Civil Engineering
- EH 101 - Freshman Composition

15 Semester Hours

Spring

- MA 172 - Calculus B
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- EH 102 - Freshman Composition
- CE 111 - Civil Engineering Graphics

17 Semester Hours

32 Total Semester Hours
Second Year

Fall

- MA 201 - Calculus C
- CE 284 - Surveying
- CE 271 - Statics
- BYS 119 - Principles of Biology
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

17 Semester Hours

Spring

- MA 238 - Applied Differential Equations
  
  HU/SS* 3 Semester Hours
- CE 370 - Mechanics of Materials
- MA 244 - Introduction to Linear Algebra
- CE 272 - Dynamics

16 Semester Hours

33 Total Semester Hours

Third Year
Fall

- MAE 341 - Thermodynamics I
- ISE 321 - Engineering Economy

HU/SS* 3 Semester Hours

- ISE 390 - Probability and Engineering Statistics I
- CE 381 - Structural Analysis I

15 Semester Hours

Spring

- CE 372 - Soil Mechanics
- CE 373 - Soil Mechanics Lab

HU/SS* 3 Semester Hours

- CE 321 - Transportation Engineering and Design
  CE Con Class 1 3 Semester Hours

16 Semester Hours

31 Total Semester Hours

Fourth Year

Fall

- CE 449 - Introduction to Environmental Engineering
- CE 380 - Civil Engineering Materials
• CE 483 - Reinforced Concrete Design  
  CE Con Class 2 3 Semester Hours

  HU/SS* 3 Semester Hours

  HU/SS* 3 Semester Hours

• CE 498 - Civil Engineering Design I

19 Semester Hours

Spring

• CE 485 - Foundation Engineering
• CE 422 - Traffic Engineering Design
• CE 499 - Civil Engineering Design II
• CE 441 - Hydraulic Engineering Design

  HU/SS* 3 Semester Hours

  CE Con Class 3 3 Semester Hours

• CE 499L - Laboratory Component of Civil Engineering Design II

18 Semester Hours

37 Total Semester Hours

Total Hours 133

*HU/SS-18 hours in humanities/social sciences.

**Electrical and Computer Engineering with Electrical Engineering Option, BSE**

The electrical engineering option offers a background 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 student may also select advanced undergraduate courses to develop individual and specific interests.
Program Educational Objectives

The program educational objectives of the Electrical Engineering Program are:

Objective 1.
To graduate electrical engineers with analytical and technical abilities to work effectively in their profession.

Objective 2.
To graduate electrical engineers capable of advancing in their chosen career fields.

Objective 3.
To graduate ethical and responsible electrical engineers.

Objective 4.
To graduate electrical engineers who contribute to the society and to the economy of the region and the nation.

Objective 5.
To graduate electrical engineers prepared for teamwork and leadership roles.

In addition to the College of Engineering BSE course requirements, the Electrical Engineering Program requires the following:

Additional Basic Sciences

- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III

Engineering Core for Electrical Engineering

- EE 213 - Electrical Circuit Analysis I
- ISE 321 - Engineering Economy
- EE 310 - Solid State Fundamentals
- EE 382 - Analytical Methods for Continuous Time Systems

Electrical Engineering Option (excluding Engineering Core):

- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
- CPE 112 - Introduction to Computer Programming in Engineering
- CPE 212 - Fundamentals of Software Engineering
Note(s):

*These must include a two-course sequence. A list of approved sequences is given below. Students may select a sequence from this list or may substitute an alternative sequence with their advisor’s approval. The remaining 6 hours may be chosen from any CPE, EE, or OPE courses (unless otherwise stated in the catalog) at 300 level or above offered by the ECE Department with advisor approval.

*Choose any science or engineering course, level 200 or above.

Approved Sequences:

Signals and Systems:

1:

- EE 426 - Communication Theory
- EE 424 - Introduction to Data Communication Networks

2:

- EE 426 - Communication Theory
• EE 414 - Analog and Digital Filter Design

3:

• EE 424 - Introduction to Data Communication Networks
• EE 414 - Analog and Digital Filter Design

Electronics/VLSI:

1:

• EE 416 - Electronics II
• EE 436 - Digital Electronics

2:

• EE 422 - Advanced Logic Design
• EE 427 - VLSI Design I

3:

• EE 416 - Electronics II
• EE 451 - Optoelectronics

Optics:

1:

• EE 454 - Optical Fiber Communications
• EE 451 - Optoelectronics
Suggested Schedule of Courses for Full-time Electrical Engineering Students

First Year

Fall

- MA 171 - Calculus A
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
  
  HU/SS+ 3 Semester Hours
- EH 101 - Freshman Composition
- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
17 Semester Hours

Spring

- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- EH 102 - Freshman Composition

HU/SS* 3 Semester Hours

- CPE 112 - Introduction to Computer Programming in Engineering

17 Semester Hours

34 Total Semester Hours

Second Year

Fall

- MA 201 - Calculus C
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- EE 202 - Introduction to Digital Logic Design
- CPE 212 - Fundamentals of Software Engineering
- MA 244 - Introduction to Linear Algebra

17 Semester Hours
Spring

- EE 203 - Digital Logic Design Lab
- MA 238 - Applied Differential Equations
- EE 213 - Electrical Circuit Analysis I
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- ISE 321 - Engineering Economy
- EE 214 - Electronic Measurement Laboratory

15 Semester Hours

32 Total Semester Hours

Third Year

Fall

- EE 307 - Electricity and Magnetism
- EE 310 - Solid State Fundamentals
- EE 313 - Electrical Circuit Analysis II

HU/SS* 3 Semester Hours

- EE 382 - Analytical Methods for Continuous Time Systems

15 Semester Hours

Spring
• EE 305 - Electronics Devices and Design Laboratory
  HU/SS\* 3 Semester Hours

  EE Elective 3 Semester Hours
• EE 383 - Analytical Methods for Multivariable and Discrete Time Systems
• EE 384 - Digital Signal Processing Laboratory
• EE 315 - Introduction to Electronic Analysis and Design
• CPE 323 - Introduction to Embedded Computer Systems

17 Semester Hours

32 Total Semester Hours

Fourth Year

Fall

• EE 425 - Introduction to Control and Robotic Systems
  EE Electives 6 Semester Hours
• EE 420 - Random Signals and Noise
  HU/SS\* 3 Semester Hours

15 Semester Hours

Spring

EE Electives 3 Semester Hours
• EE 494 - EE Design Projects
  Tech Elective 3 Semester Hours
• EE 447 - Electromagnetic Engineering
  HU/SS\* 3 Semester Hours
15 Semester Hours

30 Total Semester Hours

Total Hours 128

Note(s):

*HU/SS - 18 hours in humanities and social sciences.

**Electrical and Computer Engineering with Optical Engineering Option, BSE**

**Objective 1.**
Graduate individuals with analytical and technical abilities to work effectively in optical engineering or related fields.

**Objective 2.**
Graduate individuals capable of advancing successfully in optical engineering or related fields.

**Objective 3.**
Graduate individuals who are ethical and responsible engineers.

**Objective 4.**
Graduate individuals who contribute to the economy of the region and the nation.

**Objective 5.**
Graduate individuals prepared for both team and leadership roles in optical engineering or related fields.

**Optical Engineering Option**

**Additional Basic Sciences**
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
Engineering Core for Optical Engineering

- CPE 112 - Introduction to Computer Programming in Engineering
- EE 213 - Electrical Circuit Analysis I
- ISE 321 - Engineering Economy
- EE 310 - Solid State Fundamentals

Optical Engineering Core (excluding Engineering Core)

- EE 307 - Electricity and Magnetism
- EE 313 - Electrical Circuit Analysis II
- EE 447 - Electromagnetic Engineering
- OPE 451 - Optoelectronics
- OPE 453 - Laser Systems
- OPE 456 - Photonics Laboratory
- OPE 459 - Optical Engineering Design I
- OPE 460 - Optical Engineering Design II
- OPT 341 - Geometrical Optics
- OPT 342 - Physical Optics

Electrical Engineering Requirements

- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
- EE 202 - Introduction to Digital Logic Design
- EE 203 - Digital Logic Design Lab
- EE 214 - Electronic Measurement Laboratory
- EE 305 - Electronics Devices and Design Laboratory
- EE 315 - Introduction to Electronic Analysis and Design
- EE 382 - Analytical Methods for Continuous Time Systems
- EE 383 - Analytical Methods for Multivariable and Discrete Time Systems
- EE 384 - Digital Signal Processing Laboratory
- EE 420 - Random Signals and Noise
- OPE 454 - Optical Fiber Communications
  OPE Elective* 3 Semester Hours

Note(s):
* Courses at 300 level or above, approved by optical engineering advisor

Suggested Schedule of Courses for Full-time Optical Engineering Students

First Year

Fall

- MA 171 - Calculus A
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
  HU/SS* 3 Semester Hours
- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
- EH 101 - Freshman Composition

17 Semester Hours

Spring

- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- CPE 112 - Introduction to Computer Programming in Engineering
  HU/SS* 3 Semester Hours
- EH 102 - Freshman Composition

17 Semester Hours
34 Total Semester Hours

Second Year

Fall

- MA 201 - Calculus C
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- ISE 321 - Engineering Economy
- HU/SS* 3 Semester Hours
  - MA 244 - Introduction to Linear Algebra

17 Semester Hours

Spring

- EE 214 - Electronic Measurement Laboratory
- MA 238 - Applied Differential Equations
- EE 213 - Electrical Circuit Analysis I
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- EE 202 - Introduction to Digital Logic Design

17 Semester Hours

34 Total Semester Hours
Third Year

Fall

- EE 315 - Introduction to Electronic Analysis and Design
- OPT 341 - Geometrical Optics
- EE 382 - Analytical Methods for Continuous Time Systems
- EE 203 - Digital Logic Design Lab
- OPE 451 - Optoelectronics
- EE 307 - Electricity and Magnetism

16 Semester Hours

Spring

- EE 383 - Analytical Methods for Multivariable and Discrete Time Systems
- EE 305 - Electronics Devices and Design Laboratory
- EE 313 - Electrical Circuit Analysis II
- EE 310 - Solid State Fundamentals
- OPE 456 - Photonics Laboratory
- OPT 342 - Physical Optics

16 Semester Hours

32 Semester Hours

Fourth Year

Fall
- EE 384 - Digital Signal Processing Laboratory
- OPE 459 - Optical Engineering Design I
- EE 420 - Random Signals and Noise

  HU/SS* 3 Semester Hours

- EE 447 - Electromagnetic Engineering

13 Semester Hours

Spring

- OPE 454 - Optical Fiber Communications

  HU/SS* 3 Semester Hours

- OPE 453 - Laser Systems
- OPE 460 - Optical Engineering Design II

  OPE Elective 3 Semester Hours

15 Semester Hours

28 Total Semester Hours

Total Hours 128

Note(s):

* HU/SS - 18 hours in humanities/social sciences

**Electrical and Computer Engineering, BSE**

The program educational objectives of the computer engineering program are:

Objective 1.
To prepare graduates for successful professional practice in computer engineering and graduate study.

Objective 2.
To produce computer engineers skilled in teamwork and in designing systems with hardware and software components.

Objective 3.
To produce computer engineers who can use their broad educational experience, ethics, and professionalism to make a positive impact on their local and professional communities.

The computer engineering faculty is committed to sustaining a vigorous academic environment that values quality and diversity in the educational experience. Program strengths include a major engineering design experience; integration of hardware/software and computer systems issues, especially in the context of realtime, embedded, and networked systems; use of contemporary engineering design and modeling tools throughout the curriculum; and advanced engineering design options in hardware, software and networking. The curriculum provides a thorough basis in mathematics, probability and statistics, physical sciences, engineering sciences, laboratory experience, and design experience. This background enables students to apply computer engineering principles to a variety of contemporary problems. An engineering approach is emphasized throughout computer related coursework.

Engineering Core for Computer Engineering

- CPE 112 - Introduction to Computer Programming in Engineering
- EE 213 - Electrical Circuit Analysis I
- EE 202 - Introduction to Digital Logic Design
- CPE 381 - Fundamentals of Signals and Systems for Computer Engineers

Computer Engineering Option (excluding Engineering Core):

- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
- EE 203 - Digital Logic Design Lab
- CPE 212 - Fundamentals of Software Engineering
- EE 214 - Electronic Measurement Laboratory
- CPE 321 - Computer Organization
- CPE 323 - Introduction to Embedded Computer Systems
- EE 315 - Introduction to Electronic Analysis and Design
- EE 305 - Electronics Devices and Design Laboratory
- CPE 353 - Software Design and Engineering
- EE 384 - Digital Signal Processing Laboratory
- CPE 422 - Advanced Logic Design
- CPE 431 - Introduction to Computer Architecture
- CPE 434 - Operating Systems
- CPE 435 - Operating Systems Laboratory
- CPE 438 - Real Time and Embedded Systems
- CPE 448 - Introduction to Computer Networks
- CPE 453 - Senior Software Studio
- EE 420 - Random Signals and Noise or
- ISE 390 - Probability and Engineering Statistics I
- CPE 495 - Computer Engineering Design I
- CPE 496 - Computer Engineering Design II
- CS 214 - Introduction to Discrete Structures
- CS 317 - Introduction to Design and Analysis of Algorithms
  CPE Electives (300-level or above approved by a computer engineering advisor) 6 Semester Hours

Suggested schedule of courses for full-time Computer Engineering students.

First Year

Fall

- MA 171 - Calculus A
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

  HU/SS* 3 Semester Hours

- EH 101 - Freshman Composition
- EE 100 - Fundamentals of Computer, Electrical and Optical Engineering

17 Semester Hours

Spring

- MA 172 - Calculus B
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• EH 102 - Freshman Composition
• CPE 112 - Introduction to Computer Programming in Engineering

HU/SS* 3 Semester Hours

17 Semester Hours

34 Total Semester Hours

Second Year

Fall

• MA 201 - Calculus C
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

• EE 202 - Introduction to Digital Logic Design
• MA 244 - Introduction to Linear Algebra
• CPE 212 - Fundamentals of Software Engineering

17 Semester Hours

Spring

• MA 238 - Applied Differential Equations
• EE 214 - Electronic Measurement Laboratory
• EE 213 - Electrical Circuit Analysis I

HU/SS* 3 Semester Hours
- EE 203 - Digital Logic Design Lab
- CPE 321 - Computer Organization

14 Semester Hours

31 Total Semester Hours

Third Year

Fall

- EE 310 - Solid State Fundamentals
- EE 315 - Introduction to Electronic Analysis and Design
- CPE 323 - Introduction to Embedded Computer Systems
- CS 214 - Introduction to Discrete Structures
- CPE 381 - Fundamentals of Signals and Systems for Computer Engineers

15 Semester Hours

Spring

- EE 305 - Electronics Devices and Design Laboratory
- CPE 448 - Introduction to Computer Networks
- CPE 353 - Software Design and Engineering
- CS 317 - Introduction to Design and Analysis of Algorithms

HU/SS* 3 Semester Hours
CPE Elective 3 Semester Hours

16 Semester Hours
31 Total Semester Hours

Fourth Year

Fall

- EE 384 - Digital Signal Processing Laboratory
- CPE 422 - Advanced Logic Design
- CPE 434 - Operating Systems
- CPE 435 - Operating Systems Laboratory
- CPE 495 - Computer Engineering Design I
- CPE 431 - Introduction to Computer Architecture

HU/SS* 3 Semester Hours

17 Semester Hours

Spring

- CPE 496 - Computer Engineering Design II
- CPE 453 - Senior Software Studio
- CPE Elective 3 Semester Hours
- EE 420 - Random Signals and Noise **

HU/SS* 3 Semester Hours

15 Semester Hours

32 Total Semester Hours
Total Hours 128

Note(s):

*HU/SS - 18 hours in humanities/social sciences.

**May substitute ISE 390.

**Engineering, BSE, General Education Requirements**

Students must successfully complete courses in each of five categories. The normally required courses are shown; however, the Dean of Engineering may approve other courses which also meet ABET guidelines. Please note that the pass-fail grading option is not available to engineering students for any chemistry, computer science, engineering, mathematics, biology, or physics courses required for the BSE degree.

1. Engineering core 12 Semester Hours

This requirement of 12 semester hours is met by completion of one course from each of four of the following eight areas as identified by the program faculty and shown in each individual engineering program section of this catalog: Digital Systems, Electrical Science, Engineering Economy, Information Sciences, Materials Science, Mechanics, Systems Analysis, or Thermal Sciences.

2. General Education Requirements 24 Semester Hours

The Alabama Articulation and General Studies Committee identified a statewide freshman and sophomore level general studies curriculum to be taken at all public colleges and universities. Students preparing to complete the BSE degree must demonstrate in-depth study in history, social, or behavioral sciences through completion of 6 semester hours in a particular discipline. The requirements for all UAHuntsville undergraduate engineering students are the following:

**Written Composition (6 Semester Hours)**

Required:

- EH 101 - Freshman Composition
- EH 102 - Freshman Composition

**Humanities and Fine Arts (9 Semester Hours)**

Required:

- PHL 202 - Introduction to Ethics
Choose one of the following:

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- CM 122 - Theater Appreciation
- MU 100 - Introduction to Music Literature

Choose one of the following:

- EH 205 - British Literature I
- EH 206 - British Literature II
- EH 230 - American Literature I
- EH 240 - World Literature I
- EH 241 - World Literature II

History, Social, and Behavioral Sciences (9 Semester Hours)

A 6 semester hour sequence in one the following disciplines (ECN, GY, HY, PSC, PY, or SOC). If the 6 semester hour sequence is not in History, the remaining 3 hours must be in History.

Choose from the following:

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics
- GS 200 - Global Systems and Cultures
- GY 105 - World Regional Geography
- GY 110 - Principles of Human Geography
- HY 101 - Western Civilization, Part I
- HY 102 - Western Civilization, Part II
- HY 103 - World History to 1500
- HY 104 - World History from 1500
- PSC 101 - American Government
- PSC 102 - Comparative Politics and Foreign Governments
- PY 101 - General Psychology I
- PY 201 - Life-Span Development
- SOC 100 - Introduction to Sociology
- SOC 105 - Introduction to Cultural Anthropology
- WS 200 - Introduction to Women's Studies
3. Mathematics (18) [15]

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C

- MA 244 - Introduction to Linear Algebra [Except CHE and MAE]
- MA 238 - Applied Differential Equations

4. Basic Sciences (12)

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

Note(s):

Additional science courses may be listed under each option.

5. Engineering options

Students are required to take one of the following options:

Aerospace Engineering Option in Mechanical Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Industrial and Systems Engineering
Mechanical Engineering
Optical Engineering
Each of these options is described under the portion of the catalog devoted to the respective programs.

**Industrial and Systems Engineering and Engineering Management with Industrial and Systems Engineering Option, BSE**

**Program Educational Objectives**

To realize the mission of the department, the following program educational objectives have been adopted for the undergraduate program:

1. To produce graduates who can use their broad educational experience, ethical judgment, and systems thinking to impact the community in a positive way.
2. To produce graduates with core competencies in engineering fundamentals.
3. To produce graduates to successfully apply Industrial Engineering methodologies effectively to analyze, design, and implement integrated systems.
4. To produce graduates who can function effectively in the work environment through participation in teams, leadership and effective communication skills.
5. To produce graduates who are able to continue learning throughout their careers.

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.

**Engineering Cluster in ISE**

The ISEEM Department offers one engineering cluster that requires 21 credit hours of ISE courses:

- ISE 124 - Introduction to Industrial & Systems Engineering
- ISE 321 - Engineering Economy
- ISE 340 - Operations Research
- ISE 390 - Probability and Engineering Statistics I
- ISE 391 - Probability and Engineering Statistics II
- ISE 423 - Statistical Quality Control
- ISE 430 - Manufacturing Systems and Facilities Design

The request for a cluster is initiated with the non-engineering student’s advisor.

**Industrial and Systems Engineering Option**

Industrial engineering has evolved as a result of the ever-increasing store of human knowledge and specialization. Industrial engineers integrate resources to solve society’s problems. They seek solutions that effectively utilize people and technology to address problems in industry and government while maintaining a high regard for the environment and society as a whole. The department’s goal is to provide a student-focused environment providing students with the skills necessary for success in their future careers. ISEEM courses are application oriented, integrating information and experiences from regional industry. The ISEEM student population is one of the most diverse on campus.
Students take courses in facilities design, human factors engineering, financial decision making, manufacturing systems design, production and inventory control, statistics and quality control, computer modeling/simulation and systems management. ISEEM graduates might find themselves in such diverse industries as electronics, automotive, manufacturing, aerospace, government agencies and health care. An ISEEM professional may design the facility for the best product flow through the plant; use computer simulation to test various alternative design decisions; help design the inside compartments for the next space shuttle considering the limited space requirement and human interface with the controls; help design or track a total process system to help coordinate all functions for a successful end product; or help track and improve quality using statistical methods.

Additional Basic Sciences

- CH 123 - General Chemistry II or
- BYS 119 - Principles of Biology or
  300/400 level MA course 3 Semester Hours

Engineering Core for Industrial & Systems Engineering
- MAE 271 - Statics
- CE 271 - Statics
- EE 213 - Electrical Circuit Analysis I
- ISE 321 - Engineering Economy
- MAE 341 - Thermodynamics I

Industrial Engineering Option (excluding Engineering Core): (61)

- CPE 112 - Introduction to Computer Programming in Engineering
- MAE 110 - Introduction to Engineering Computer Aided Design
- ISE 124 - Introduction to Industrial & Systems Engineering
- ISE 324 - Work Design
- ISE 327 - Management Systems Analysis
- ISE 340 - Operations Research
- CE 370 - Mechanics of Materials
- MAE 370 - Mechanics of Materials
- ISE 378 - Materials and Manufacturing Processes
- MAE 378 - Materials and Manufacturing Processes
- ISE 390 - Probability and Engineering Statistics I
- ISE 391 - Probability and Engineering Statistics II
- ISE 423 - Statistical Quality Control
- ISE 428 - Systems Analysis and Design I
- ISE 429 - Systems Analysis and Design II
- ISE 430 - Manufacturing Systems and Facilities Design
- ISE 433 - Production and Inventory Control Systems
• ISE 447 - Introduction to Systems Simulation
  *ISE Electives 9 Semester Hours
  **Technical Electives 33 Semester Hours

Note(s):

* Choose from ISE 402, 403, 426, 437, or other upper-level courses approved by the Department, or MA 385. Students may select a maximum of 3 hours from: EH 301, ACC 211, MTK 301, or MGT 363, 462.

**Choose any 200-level or above engineering or science course.

Suggested Schedule of Courses for Full-time Industrial and Systems Engineering Students

First Year

Fall

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• EH 101 - Freshman Composition
• MA 171 - Calculus A
• MAE 110 - Introduction to Engineering Computer Aided Design
• ISE 124 - Introduction to Industrial & Systems Engineering

17 Semester Hours

Spring

• EH 102 - Freshman Composition
• CPE 112 - Introduction to Computer Programming in Engineering

  HU/SS 3 Semester Hours

• MA 172 - Calculus B
• CH 123 - General Chemistry II
• BYS 119 - Principles of Biology
  or 300/400 MA course 3 Semester Hours

16 Semester Hours

33 Total Semester Hours

Second Year

Fall

• ISE 321 - Engineering Economy
• MA 201 - Calculus C
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I
• ISE 390 - Probability and Engineering Statistics I
  HU/SS 3 Semester Hours

17 Semester Hours

Spring

• MA 244 - Introduction to Linear Algebra
• MA 238 - Applied Differential Equations
• MAE 271 - Statics
• ISE 391 - Probability and Engineering Statistics II
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

16 Semester Hours

33 Total Semester Hours

Third Year

Fall

• ISE 324 - Work Design
• ISE 340 - Operations Research

HU/SS 3 Semester Hours

• MAE 370 - Mechanics of Materials
• MAE 341 - Thermodynamics I

16 Semester Hours

Spring

• EE 213 - Electrical Circuit Analysis I

Tech Elective 3 Semester Hours

• ISE 423 - Statistical Quality Control

• ISE 378 - Materials and Manufacturing Processes
• MAE 378 - Materials and Manufacturing Processes

HU/SS 3 Semester Hours

• ISE 433 - Production and Inventory Control Systems
18 Semester Hours

34 Total Semester Hours

Fourth Year

Fall

HU/SS 3 Semester Hours

- ISE 428 - Systems Analysis and Design I
- ISE 430 - Manufacturing Systems and Facilities Design
  ISE Elect. 3 Semester Hours
- ISE 447 - Introduction to Systems Simulation

15 Semester Hours

Spring

HU/SS 3 Semester Hours

- ISE 327 - Management Systems Analysis
- ISE 429 - Systems Analysis and Design II
  ISE Elect. 3 Semester Hours
  ISE Elect. 3 Semester Hours

15 Semester Hours

30 Total Semester Hours
Total Hours 130

**Mechanical and Aerospace Engineering, BSE**

The program educational objectives of the Aerospace Engineering Option in Mechanical Engineering are to produce graduates who will:

1. Successfully apply their knowledge in their careers as aerospace engineers.
2. Respect societal and ethical considerations of their profession.
3. Continue to learn, and pursue advanced studies if they so choose.
4. Work effectively in multi-disciplinary teams by providing technical expertise and effective communication.

**Additional Basic Sciences**

CH/PH Science Elective* 4 Semester Hours

**Engineering Core for Aerospace Engineering Option in Mechanical Engineering**

- MAE 271 - Statics
- CE 271 - Statics

- EE 213 - Electrical Circuit Analysis I
- ISE 321 - Engineering Economy
- MAE 341 - Thermodynamics I

**Aerospace Engineering Option in Mechanical Engineering (excluding Engineering Core)**

- MAE 100 - Introduction to Mechanical and Aerospace Engineering
- MAE 110 - Introduction to Engineering Computer Aided Design
- MAE 200 - Principles of Aeronautics and Astronautics

- MAE 272 - Dynamics
- CE 272 - Dynamics

- MAE 285 - Numerical Methods and Computation I
- MAE 311 - Principles of Measurement and Instrumentation
- MAE 342 - Thermodynamics II
• MAE 370 - Mechanics of Materials
• CE 370 - Mechanics of Materials
• MAE 371 - Aerospace Structures
• MAE 378 - Materials and Manufacturing Processes
• ISE 378 - Materials and Manufacturing Processes
• MAE 385 - Numerical Methods and Computation II
• MAE 420 - Compressible Aerodynamics
• MAE 430 - Fundamentals of Aerodynamics
• MAE 440 - Rocket Propulsion I
  or
• MAE 441 - Airbreathing Propulsion
• MAE 449 - Aerospace Laboratory
• MAE 450 - Introduction to Heat and Mass Transfer
• MAE 468 - Elements of Spacecraft Design
• MAE 480 - Aircraft Stability and Control
• MAE 488 - Analysis of Engineering Systems
• MAE 490 - Introduction to Engineering Design
• MAE 492 - Aerospace Design
  Technical Elective** 3 Semester Hours

Note(s):

*Choose from CHE 123/126 or PH 113/116.

**MA 244 (transfer students only) or MAE courses at 300 level or above approved by the Department.

Suggested Schedule of Courses for Full-Time Aerospace Engineering Option in Mechanical Engineering

Year 1

Fall

• EH 101 - Freshman Composition
• MA 171 - Calculus A
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- MAE 110 - Introduction to Engineering Computer Aided Design

HSBS/HFA* 3 Semester Hours

17 Semester Hours

Spring

- EH 102 - Freshman Composition
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- MAE 100 - Introduction to Mechanical and Aerospace Engineering
- MAE 285 - Numerical Methods and Computation I

16 Semester Hours

33 Total Semester Hours

Year 2

Fall

- MA 201 - Calculus C
- MA 238 - Applied Differential Equations
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
MAE 271 - Statics

HSBS/HFA* 3 Semester Hours

17 Semester Hours

Spring

- MAE 200 - Principles of Aeronautics and Astronautics
- MAE 272 - Dynamics
- MAE 341 - Thermodynamics I
- MAE 370 - Mechanics of Materials
- MAE 385 - Numerical Methods and Computation II

17 Semester Hours

34 Total Semester Hours

Year 3

Fall

- MAE 371 - Aerospace Structures
- MAE 378 - Materials and Manufacturing Processes
- EE 213 - Electrical Circuit Analysis I
- ISE 321 - Engineering Economy

HSBS/HFA* 3 Semester Hours

18 Semester Hours
Spring

- MAE 311 - Principles of Measurement and Instrumentation
- MAE 342 - Thermodynamics II
- MAE 420 - Compressible Aerodynamics
- MAE 450 - Introduction to Heat and Mass Transfer
- MAE 488 - Analysis of Engineering Systems

16 Semester Hours

34 Total Semester Hours

Year 4

Fall

- MAE 430 - Fundamentals of Aerodynamics
- MAE 440 - Rocket Propulsion I
  or
- MAE 441 - Airbreathing Propulsion
- MAE 449 - Aerospace Laboratory
- MAE 490 - Introduction to Engineering Design
  HSBS/HFA* 3 Semester Hours
  HSBS/HFA* 3 Semester Hours

16 Semester Hours

Spring
ME 468 - Elements of Spacecraft Design
ME 480 - Aircraft Stability and Control
ME 492 - Aerospace Design
Technical Elective 3 Semester Hours
HSBS/HFA* 3 Semester Hours

15 Semester Hours

31 Total Semester Hours

Total Hours 132

*HSBS/HFA – 3 hours of PHL 202 or equivalent, 9 hours in History and Social and Behavioral Sciences (including a 6 hour sequence in a discipline), and 6 hours in Humanities and Fine Arts.

**Mechanical Engineering, BSE**

Mechanical engineering is the third oldest of the engineering disciplines after civil engineering and mining and metallurgical engineering. Mechanical engineering is the broadest engineering discipline. It is a professional discipline that involves the application of principles of physics for analysis, design, manufacturing, and maintenance of mechanical systems. It requires a solid understanding of key concepts including mechanics, kinematics, thermodynamics and energy. The discipline traditionally comprises three primary sub-disciplines: energy, mechanisms and machinery, and manufacturing. The work done by mechanical engineers includes the design, analysis, fabrication, and use of systems for the conversion of energy available from natural sources (water, fossil fuels, nuclear fuels, solar radiation) to other forms of useful energy (for transportation, heat, light, power); design and production of machines to lighten the burden of manual labor and to do work otherwise beyond human capability; processing of materials into useful products; and creative planning, development, and operation of systems using energy, machines, and resources.

**Program Educational Objectives**

The program educational objectives of the Mechanical Engineering Program are to produce graduates who will:

1. Successfully apply their knowledge in their careers as mechanical engineers.
2. Respect societal and ethical considerations of their profession.
3. Continue to learn, and pursue graduate studies if they so choose.
4. Work effectively in multi-disciplinary teams by providing technical expertise and effective communication.

**Additional Basic Sciences**

BY/CH/PH Science Elective* 4 Semester Hours

**Engineering Core for Mechanical Engineering**
• MAE 271 - Statics
• CE 271 - Statics
• EE 213 - Electrical Circuit Analysis I
• ISE 321 - Engineering Economy
• MAE 341 - Thermodynamics I

Mechanical Engineering Option (excluding Engineering Core)

• MAE 100 - Introduction to Mechanical and Aerospace Engineering
• MAE 110 - Introduction to Engineering Computer Aided Design

• MAE 272 - Dynamics
• CE 272 - Dynamics

• MAE 285 - Numerical Methods and Computation I
• CHE 310 - Fluid Mechanics I

• MAE 311 - Principles of Measurement and Instrumentation
• MAE 342 - Thermodynamics II
• MAE 364 - Kinematics and Dynamics of Machines

• MAE 370 - Mechanics of Materials
• CE 370 - Mechanics of Materials

• MAE 378 - Materials and Manufacturing Processes
• ISE 378 - Materials and Manufacturing Processes

• MAE 385 - Numerical Methods and Computation II
• MAE 410 - Fluid Mechanics II
• MAE 411 - Fluid Mechanics Laboratory
• MAE 450 - Introduction to Heat and Mass Transfer
• MAE 455 - Design of Thermal Systems
• MAE 466 - Mechanics and Design of Machine Elements
• MAE 488 - Analysis of Engineering Systems
• MAE 489 - Computer-Aided Engineering Analysis
• MAE 490 - Introduction to Engineering Design
• MAE 491 - Mechanical Engineering Design

Technical Electives** 8 Semester Hours

Note(s):
*See current list on College Website.

**MA 244 (transfer students only) or MAE courses at 300 level or above approved by the department.

Suggested Schedule of Courses for Full-time Mechanical Engineering Students

First Year

Fall: 16

- MA 171 - Calculus A
- CH 121 - General Chemistry I
- and
- CH 125 - General Chemistry Laboratory I
- MAE 110 - Introduction to Engineering Computer Aided Design
- EH 101 - Freshman Composition
- MAE 100 - Introduction to Mechanical and Aerospace Engineering

Spring: 18

- MA 172 - Calculus B
  BY/CH/PH Elective 4 Semester Hours
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- EH 102 - Freshman Composition
  HSBS/HFA* 3 Semester Hours

34 Hours

Second Year
Fall: 17

- MA 201 - Calculus C
- MAE 271 - Statics
- MAE 285 - Numerical Methods and Computation I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

    HSBS/HFA* 3 Semester Hours

Spring: 15

- MA 238 - Applied Differential Equations
  
    HSBS/HFA* 3 Semester Hours
- ISE 321 - Engineering Economy
- MAE 272 - Dynamics
  
    HSBS/HFA* 3 Semester Hours

32 Hours

Third Year

Fall: 18

- MAE 341 - Thermodynamics I
- MAE 370 - Mechanics of Materials
- MAE 385 - Numerical Methods and Computation II
- EE 213 - Electrical Circuit Analysis I
  
    HSBS/HFA* 3 Semester Hours
    HSBS/HFA* 3 Semester Hours
Spring: 16

- MAE 311 - Principles of Measurement and Instrumentation
- MAE 342 - Thermodynamics II
- MAE 364 - Kinematics and Dynamics of Machines
- MAE 378 - Materials and Manufacturing Processes

34 Hours

Fourth Year

Fall: 17

- MAE 410 - Fluid Mechanics II
- MAE 411 - Fluid Mechanics Laboratory
- MAE 450 - Introduction to Heat and Mass Transfer
- MAE 466 - Mechanics and Design of Machine Elements
- MAE 489 - Computer-Aided Engineering Analysis
- MAE 490 - Introduction to Engineering Design
  Technical Elective 2 Semester Hours

Spring: 15

- MAE 455 - Design of Thermal Systems
- MAE 488 - Analysis of Engineering Systems
- MAE 491 - Mechanical Engineering Design
  Technical Elective 3 Semester Hours
  Technical Elective 3 Semester Hours

32 Hours
Total Hours 132

Note(s):
*HSBS/HFA – 3 hours of PHL 202 or equivalent, 9 hours in History and Social and Behavioral Sciences (including a 6 hour sequence in a discipline), and 6 hours in Humanities and Fine Arts.

Engineering Cluster in MAE

The MAE Department offers one engineering cluster that requires 19 credit hours of MAE courses:

- MAE 110 - Introduction to Engineering Computer Aided Design
- MAE 271 - Statics
- MAE 272 - Dynamics
- MAE 341 - Thermodynamics I
- MAE 370 - Mechanics of Materials

The request for a cluster is initiated with the non-engineering student’s advisor.

Bachelor of Arts

Art History, BA

The Art History Discipline

A. Lower Division Requirements 18 Semester Hours

1. Art History Survey Courses

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- ARH 103 - Art History Survey: Art in Non-Western Traditions

2. Art Studio Courses
Any two 100-level ARS courses 6 Semester Hours  
One 200-level ARS course 3 Semester Hours

B. Upper Division Requirements 24 Semester Hours

3See Note Below

1. Art History Courses

- ARH 309 - Contemporary Art and Issues
  Five additional ARH courses at the 300 level or above3 15 Semester Hours
- ARH 400 - Art History Seminar

2. Art Studio Courses

3See Note Below

One 300-level ARS course, selected in consultation with advisor 3 Semester Hours

C. Total semester hours within the Department of Art and Art History 42 Semester Hours

(45 hours for art history majors with an art studio minor).

Note(s):

Note 1: All students with an art history focus must satisfy an exit requirement that is included in the ARH 400 coursework.

Note 2: To fulfill an upper-level art history requirement, a student may substitute PHL 310, Philosophy of Art, and/or HY 410, Public History, for a 300-level art history course.

Note 3: 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.

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 a faculty advisor to plan a program of study. A major in communication arts consists of either 33 (Rhetoric) or 40 (Technical Communication) hours of coursework in the major, at least 21 hours of which must be at or above the 300-level. Transfer students must take at least 12 hours of upper-level coursework in the major at UA Huntsville.

All majors are required to take the following three core courses:
• CM 113 - Introduction to Rhetorical Communication
• CM 231 - Foundations of Human Communication
• CM 370 - Communication Research Methods

Additionally

Majors must elect one of the following tracks and take the required core of courses listed under that track:

Rhetoric Track

• CM 309 - History of Rhetoric
• CM 375 - Rhetorical Criticism
• CM 431 - Senior Seminar in Communication Theory and Research

15 hours of electives from CM or other approved courses in allied disciplines.

Technical Communication Track

• CM 301 - Technical Writing
• CM 302 - Technical Editing
• CM 309 - History of Rhetoric
• CM 320 - Practicum in Writing
• CM 400 - Internship
• CM 402 - Theory and Practice in Technical Communication

15 hours of electives from CM or other approved courses in allied disciplines, including 6-9 hours of technical courses.

Note(s):

*Please schedule a meeting with the chair of communication arts after filing the Program of Study (POS) form in the College of Liberal Arts Academic and Information Office.

Elementary Education (K-6), B.A.

The curriculum in elementary education provides a broad liberal education base, professional studies and includes the study of a single discipline. General Education Requirements for elementary education candidates must complete a minimum of 12 semester hours in each of the following areas: English language arts, history-social sciences, natural sciences, and mathematics. The professional education curriculum prepares the teacher candidate for the general
responsibilities expected of all teachers and the specific competencies of the elementary classroom. In addition, this curriculum provides a base for movement into the middle school, if the candidate so desires.

Because of the scope of the elementary education program the student must inform the Education Department of this goal as early as possible. The student will be assigned an advisor to assist in planning an effective course of study. This planning also requires the student to seek counseling from an adviser in the department of the student’s second area of study. Once admitted to the Teacher Education Program, the program must be completed within four years.

Upon successful completion of the elementary education program and all related requirements, students will be awarded a B.A. degree and may request recommendation for the Alabama Class B Elementary Professional Teachers Certificate for grades K-6.

**Elementary Education Certification Requirements**

- ED 301 - Introduction to Education Practicum
- ED 305 - Foundations of Education in the United States
- ED 308 - Educational Psychology
- ED 309 - Classroom and Behavior Management
- ED 350 - Technology in the Classroom
- ED 430 - Applied Multiculturalism
- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students

**Methods Courses**

- ED 310 - Integrating the Creative Arts in Elementary School Classrooms
- ED 315 - Educational Evaluation and Measurement
- ED 371 - Teaching Elementary Language Arts
- ED 372 - Teaching Elementary Social Studies
- ED 373 - Teaching Elementary Science and Health
- ED 374 - Teaching Elementary Mathematics
- ED 375 - Teaching Reading in Primary Grades
- ED 405 - Reading Strategies in Intermediate Grades

**Internship**

- ED 493 - Elementary School Internship

**Total Hours 55**
Second Area of Study for Elementary Education Teacher Candidates

A student planning to teach in an elementary school must select a second area consisting of a minimum of 15 hours. Available programs in the College of Liberal Arts are: English, communication arts, history, foreign language (French, German, Spanish), music, political science, philosophy, psychology and sociology. Students may also select the Collaborative Teacher Cognate. Approved programs in the College of Science are biology, chemistry, mathematics and physics. Other cognate fields may be approved by petitioning for special consideration.

Biology 23 Hours

- BYS 119 - Principles of Biology (GER)
- BYS 120 - Organismal Biology (GER)
- BYS 219 - Genetics and Evolution*
  - * CH 121 - General Chemistry I Prerequisite
  - * CH 125 - General Chemistry Laboratory I Prerequisite
- BYS 312 - Principles of Ecology

Recommended

- BYS 301 - Elementary Biochemistry*
  - * CH 201 - Elementary Organic Chemistry Prerequisite
  or
- BYS 300 - Cell and Developmental Biology
  - * CH 121 - General Chemistry I Prerequisite

BYS 300+ Elective 3 Semester Hours

Communication Arts 21 Hours

- CM 113 - Introduction to Rhetorical Communication (GER)
- CM 122 - Theater Appreciation (GER)
- CM 221 - Acting
- CM 231 - Foundations of Human Communication

- CM 309 - History of Rhetoric
  - or CM 310 - Persuasion
• CM 205 - Media Writing
• CM 430 - Mass Media in America: Theory and Criticism

Collaborative 18 Hours

• EDC 301 - Teaching the Exceptional Child (Survey Part I)
• EDC 302 - Introduction to Low Incidence Populations (Survey Part II)
• EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
• EDC 321 - Collaborative Consultation (Parents, Teachers, Teams)
• EDC 331 - Critical Issues in Education: Behavioral, Medical, and Legal Issues
• EDC 341 - Transition of K-12 Students: Assessing to Inform Change
• EDC 351 - Behavior Analysis and Intervention

English 30 Hours

• EH 101 - Freshman Composition (GER)
• EH 102 - Freshman Composition (GER)
• EH 360 - Shakespeare
• EH 400 - Composition Studies for Teachers

Foreign Language 25 Hours

• FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language I (GER)
• FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language II (GER)
• FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
• FL 301 - Conversation
• FL 302 - Composition
• FL 304 - Culture
• FL 305 - Introduction to Literature

History 30 Hours

• HY 101 - Western Civilization, Part I (GER)
• HY 102 - Western Civilization, Part II (GER) 
  or 
• HY 103 - World History to 1500 (GER) 
• HY 104 - World History from 1500 (GER) 
• HY 290 - Historical Methods 
• HY 221 - The United States to 1877 
• HY 222 - The United States Since 1877 
• HY 325 - History of Alabama 
  HY 300+ Elective* 3 Semester Hours 
  HY 400+ Elective* 6 Semester Hours 
  *Includes 6 hrs. U.S. & 6 hrs. non-U.S.

Mathematical Science 33 Hours

• MA 171 - Calculus A (GER) 
• MA 172 - Calculus B (GER) 
• MA 201 - Calculus C 
• MA 244 - Introduction to Linear Algebra 
• MA 330 - Foundations of Mathematics 
• MA 385 - Introduction to Probability and Statistics 
• MA 433 - Introduction to Geometry 
• MA 442 - Algebraic Structures with Applications 
• MA 452 - Introduction to Real Analysis 
• MA 487 - Introduction to Mathematical Statistics or 
• ST 487 - Introduction to Mathematical Statistics

Music 16 Hours

• MU 100 - Introduction to Music Literature (GER) 
• MU 108 - Introduction to Music Theory (GER) 
• MU 201 - Theory of Music I 
• MU 203 - Musicianship Skills I 
  MUA – Studio Instruction Ensembles 4 Semester Hours 
  MUE 328 – Teaching Gen. Music 3 Semester Hours

Philosophy 15 Hours
- PHL 101 - Introduction to Philosophy or
- PHL 202 - Introduction to Ethics (GER)
- PHL 201 - Introduction to Logic (GER)
  PHL 300+ Electives 9 Semester Hours

Political Science 18 Hours

- PSC 101 - American Government (GER)
- PSC 102 - Comparative Politics and Foreign Governments (GER)
- PSC 103 - State and Local Government
  PSC 300 + Electives 3 Semester Hours
- PSC 484 - Senior Seminar in Political Science

Sociology 18 Hours

- SOC 100 - Introduction to Sociology
- SOC 102 - Analysis of Social Problems
- SOC 206 - Marriage and Family
  SOC 300 + Electives 12 Semester Hours

Psychology 18 Hours

- PY 101 - General Psychology I (GER)
- PY 102 - Applications in Psychology
- PY 315 - Developmental Psychology
- PY 375 - Social Psychology

- PY 301 - Personality OR
- PY 433 - Abnormal Psychology

- PY 314 - Learning OR
- PY 380 - Cognition

English, BA

Curriculum One (for students not seeking teacher certification)
Sophomore literature 6 Semester Hours

As Described in the GER
- EH 205 - British Literature I
- EH 206 - British Literature II
- EH 230 - American Literature I
- EH 231 - American Literature II
- EH 240 - World Literature I
- EH 241 - World Literature II
- EH 250(H) - Honors World Literature I
- EH 251(H) - Honors World Literature II

Shakespeare 3 Semester Hours

- EH 360 - Shakespeare

American literature 6 Semester Hours

- EH 330 - American Literature through the Civil War
- EH 331 - American Literature from the Civil War to WWI
- EH 332 - American Literature from WWI to WWII
- EH 333 - American Literature from WWII to the Present
- EH 420 - Modern and Contemporary Poetry
- EH 422 - Modern Novel
- EH 430 - The American Novel
- EH 431 - The American Novel
- EH 433 - William Faulkner
- EH 435 - Special Studies in American Literature
- EH 438 - African American Literature
- EH 439 - Ethnic American Novel

English literature 6 Semester Hours

- EH 380 - Restoration and Early Eighteenth Century
- EH 381 - Later Eighteenth Century
- EH 390 - Romantic Poetry and Prose
• EH 391 - Victorian Poetry and Prose
• EH 418 - Representative Texts by Women Writers
• EH 420 - Modern and Contemporary Poetry
• EH 422 - Modern Novel
• EH 423 - Studies in Contemporary British Literature
• EH 440 - Special Studies in English Literature
• EH 450 - Chaucer
• EH 451 - Middle English Literature
• EH 460 - Sixteenth-Century Poetry and Prose
• EH 470 - Milton
• EH 471 - Renaissance Drama
• EH 472 - Seventeenth-Century Poetry
• EH 492 - The Early English Novel
• EH 493 - The Victorian Novel
• EH 495 - The Literature of Transition

Electives 15 Semester Hours

Choose from any British and American literature courses listed above, as well as the following:

• EH 300 - Strategies for Business Writing
• EH 301 - Technical Writing
• EH 302 - Technical Editing
• EH 320 - Practicum in Writing
• EH 400 - Composition Studies for Teachers
• EH 403 - Literary Criticism and Theory
• EH 404 - Literary Research Methods
• EH 408 - History of the English Language
• EH 410 - Fiction Writing
• EH 411 - Poetry Writing
• EH 412 - Special Topics in Writing
• EH 415 - Studies in Anglophone/Postcolonial Literature
• EH 418 - Representative Texts by Women Writers
• EH 421 - Modern Drama
• EH 425 - Literature and Technology
• EH 448 - The Bible as Literature

Total: 36 Hours

The following further requirements and conditions apply to Curriculum One:

1. one course devoted entirely to the novel
2. one upper-level single-author course (excluding EH 360 [Shakespeare])
3. Two courses (6 semester hours) in 400-level courses
4. No more than three sophomore literature courses (9 semester hours)
5. For transfer students, 12 semester hours in upper-level (numbered 300 or above) at UAHuntsville
6. No more than three courses (9 semester hours) in creative writing

Curriculum Two: English / Language Arts (for students seeking teacher certification)

Sophomore literature 6 Semester Hours

As Described in the GER
- EH 205 - British Literature I
- EH 206 - British Literature II
- EH 230 - American Literature I
- EH 231 - American Literature II
- EH 240 - World Literature I
- EH 241 - World Literature II
- EH 250(H) - Honors World Literature I
- EH 251(H) - Honors World Literature II

Shakespeare 3 Semester Hours

- EH 360 - Shakespeare

Survey of General Linguistics 3 Semester Hours

- EHL 405 - Survey of General Linguistics: Applied English Linguistics I

Composition Studies for Teachers 3 Semester Hours

- EH 400 - Composition Studies for Teachers

American literature 3 Semester Hours
• EH 330 - American Literature through the Civil War
• EH 331 - American Literature from the Civil War to WWI
• EH 332 - American Literature from WWI to WWII
• EH 333 - American Literature from WWII to the Present
• EH 420 - Modern and Contemporary Poetry
• EH 422 - Modern Novel
• EH 430 - The American Novel
• EH 431 - The American Novel
• EH 433 - William Faulkner
• EH 435 - Special Studies in American Literature
• EH 438 - African American Literature
• EH 439 - Ethnic American Novel

English literature 3 Semester Hours

• EH 380 - Restoration and Early Eighteenth Century
• EH 381 - Later Eighteenth Century
• EH 390 - Romantic Poetry and Prose
• EH 391 - Victorian Poetry and Prose
• EH 418 - Representative Texts by Women Writers
• EH 420 - Modern and Contemporary Poetry
• EH 422 - Modern Novel
• EH 423 - Studies in Contemporary British Literature
• EH 440 - Special Studies in English Literature
• EH 450 - Chaucer
• EH 451 - Middle English Literature
• EH 460 - Sixteenth-Century Poetry and Prose
• EH 470 - Milton
• EH 471 - Renaissance Drama
• EH 472 - Seventeenth-Century Poetry
• EH 492 - The Early English Novel
• EH 493 - The Victorian Novel

The Novel 3 Semester Hours

• EH 430 - The American Novel
• EH 431 - The American Novel
• EH 439 - Ethnic American Novel
• EH 492 - The Early English Novel
• EH 493 - The Victorian Novel
• EH 435 - Special Studies in American Literature
• EH 440 - Special Studies in English Literature
  [with a topic covering the novel]

Literature elective (must be 300 level or above) 3 Semester Hours

Choose from any of the courses listed above, as well as the following:

• EH 403 - Literary Criticism and Theory
• EH 404 - Literary Research Methods
• EH 408 - History of the English Language
• EH 410 - Fiction Writing
• EH 411 - Poetry Writing
• EH 412 - Special Topics in Writing
• EH 413 - Children's and Adolescent Literature
• EH 415 - Studies in Anglophone/Postcolonial Literature
• EH 418 - Representative Texts by Women Writers
• EH 421 - Modern Drama
• EH 425 - Literature and Technology

Speech and Communication 6 Semester Hours

• CM 113 - Introduction to Rhetorical Communication
• CM 231 - Foundations of Human Communication

Communication Arts elective 3 Semester Hours

• CM 309 - History of Rhetoric
• CM 310 - Persuasion or
• CM 316 - Legal Argument

Drama and Theatre 6 Semester Hours

• CM 122 - Theater Appreciation
• CM 221 - Acting

Media Writing 3 Semester Hours
- CM 205 - Media Writing

Mass Media 3 Semester Hours

- CM 430 - Mass Media in America: Theory and Criticism

Total: 48 Hours

The following further requirements and conditions apply to Curriculum Two:

1. Two courses (6 semester hours) in 400-level courses
2. For transfer students, 12 semester hours in upper-level (numbered 300 or above) at UAHuntsville
3. No more than one course (3 semester hours) in creative writing
4. No more than three sophomore literature courses (9 semester hours)

English for Second Area of Study for Elementary Education Teacher Candidates

Students majoring in elementary education may select English as their second area of study. This area consists of a minimum of eighteen hours beyond the freshman composition requirement (EH 101 and 102) and the sophomore literature requirement. These hours must be in courses numbered 300 or above and must be selected from the courses listed below with the approval of a faculty advisor in the Education Department and the chair of the English Department.

American literature 3 Semester Hours

- EH 330 - American Literature through the Civil War
- EH 331 - American Literature from the Civil War to WWI
- EH 332 - American Literature from WWI to WWII
- EH 333 - American Literature from WWII to the Present
- EH 420 - Modern and Contemporary Poetry
- EH 422 - Modern Novel
- EH 430 - The American Novel
- EH 431 - The American Novel
- EH 433 - William Faulkner
- EH 435 - Special Studies in American Literature
- EH 438 - African American Literature
• EH 439 - Ethnic American Novel

Shakespeare 3 Semester Hours

• EH 360 - Shakespeare

Survey of General Linguistics 3 Semester Hours

• EHL 405 - Survey of General Linguistics: Applied English Linguistics I

English Literature 3 Semester Hours

• EH 380 - Restoration and Early Eighteenth Century
• EH 381 - Later Eighteenth Century
• EH 390 - Romantic Poetry and Prose
• EH 391 - Victorian Poetry and Prose
• EH 418 - Representative Texts by Women Writers
• EH 420 - Modern and Contemporary Poetry
• EH 422 - Modern Novel
• EH 423 - Studies in Contemporary British Literature
• EH 440 - Special Studies in English Literature [with a topic in English literature]
• EH 450 - Chaucer
• EH 451 - Middle English Literature
• EH 460 - Sixteenth-Century Poetry and Prose
• EH 470 - Milton
• EH 472 - Seventeenth-Century Poetry
• EH 492 - The Early English Novel
• EH 493 - The Victorian Novel

The Novel 3 Semester Hours

• EH 430 - The American Novel
• EH 431 - The American Novel
• EH 435 - Special Studies in American Literature
• EH 439 - Ethnic American Novel
• EH 440 - Special Studies in English Literature
• EH 492 - The Early English Novel
• EH 493 - The Victorian Novel

Composition Studies for Teachers 3 Semester Hours

• EH 400 - Composition Studies for Teachers

Foreign Languages, BA

The major is comprised of twelve courses of which ten will be taught in the focus language (French, German, Russian, Spanish) and two (FL 204 and FL 410) will utilize English for in-class discussions.

Requirements

• FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language I and
• FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language II
• FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
• FL 202F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language II
• FL 204 - International Cinema (Taught in English)
• FL 301 - Conversation
• FL 302 - Composition
• FL 303 - Foreign Language for Life and Professions
• FL 304 - Culture
• FL 305 - Introduction to Literature
• FL 404 - Texts and Contexts: Seminar in Literature
• FL 410 - International Internship

Total: 36 Hours

Foreign Language and International Trade

Foreign Language majors interested in enhancing their preparation for participation in the global economy may wish to consider a focus in international trade, which combines courses in business with a study of world history 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.
• FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language I
• FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language II
• FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
• FL 202F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language II
• FL 204 - International Cinema (Taught in English)
• FL 301 - Conversation
• FL 302 - Composition
• FL 303 - Foreign Language for Life and Professions
• FL 304 - Culture
• FL 305 - Introduction to Literature
  or
• FL 404 - Texts and Contexts: Seminar in Literature
• FL 410 - International Internship
• PSC 260 - Introduction to International Relations
• ECN 142 - Principles of Macroeconomics
• ACC 211 - Financial Accounting
• ACC 212 - Management Accounting
• SOC 303 - Statistics for the Social Sciences
  or
• MSC 287 - Business Statistics I
• FIN 301 - Principles of Finance
• FIN 454 - International Finance
• MGT 301 - Managing Organizations
• MKT 301 - Principles of Marketing
• MKT 415 - International Marketing
  or
• MGT 450 - International Business

Total: 63 Hours

History, BA

A student majoring in history must include in the academic program a minimum of 33 semester hours in history beyond HY 101-102 or HY 103-104 (GER). The U.S. survey courses, HY 221-222, and the history methods course, HY 290, are required. A student may take no more than a total of 12 semester hours in 200-level work including HY 221-222. A history major must take a minimum of 21 semester hours in courses numbered 300 or above; 9 semester hours must be 400-level courses, and must include HY 490. A history major is required to take a minimum of 6 semester hours in American history beyond HY 221 and 222 and a minimum of 6 semester hours in non-American history beyond HY 101-102 or HY 103-104 (GER). Students are encouraged to complete as many upper division courses as possible before enrolling in HY 490.
Coursework

- HY 221 - The United States to 1877
- HY 222 - The United States Since 1877
- HY 290 - Historical Methods

Additional Information

A student majoring in history will find a variety of programs of study enabling her or him to develop depth and breadth in history and related areas from the other humanities, the social sciences, mathematics, and the natural sciences. Counseling is available in the History Department for programs of study in the following: graduate school preparation, general, pre-professional and prelaw preparation, international studies, secondary school teaching, and the fine arts.

Students are advised to declare a major officially and to obtain a Program of Study by the beginning of the junior year, if not before. Students may initiate the Program by meeting with the College of Liberal Arts Academic Advisor (Morton Hall, Room 220).

Liberal Arts, General Education Requirements

Component 1:

General Education Requirements for the B.A. Degree

NOTE: COURSES TAKEN TO SATISFY REQUIREMENTS FOR ONE AREA ARE NOT APPLICABLE TO A SECOND AREA.

English Composition 6 Semester Hours

- EH 101 - Freshman Composition
- EH 102 - Freshman Composition

Note(s):

Honors students take EH 105H only, if the Honors Program is completed

Humanities and Fine Arts 25 Semester Hours

(Students may take no more than 6 semester hours in a single discipline.)
Fine Arts:

Choose one course

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- ARH 103 - Art History Survey: Art in Non-Western Traditions
- ARS 160 - Introduction to Drawing
- CM 122 - Theater Appreciation
- MU 100 - Introduction to Music Literature

Literature:

Choose one course from Area I and one course from Area II

Area I

Choose one course

- EH 205 - British Literature I
- EH 230 - American Literature I
- EH 240 - World Literature I

Area II:

Choose one course

- EH 206 - British Literature II
- EH 231 - American Literature II
- EH 241 - World Literature II

Humanities and Fine Arts:

Choose two courses

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- ARH 103 - Art History Survey: Art in Non-Western Traditions
- ARS 160 - Introduction to Drawing
- CM 122 - Theater Appreciation
- MU 100 - Introduction to Music Literature
- PHL 201 - Introduction to Logic
- PHL 202 - Introduction to Ethics
- WS 200 - Introduction to Women's Studies
- FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
Note(s):

Education major must take CM 113 - Speech in this area.

Foreign Language and Literature:

Choose one language, 10 hrs.

- FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language I
- FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language II
  Placement is required for native speakers and for students planning to continue a language taken in high school.

Natural Science and Mathematics 11 Semester Hours

Elementary education majors must complete 12 semester hours in science and 12 semester hours of college level mathematics. See Education Department for specific science course options for elementary education majors.

Natural Science:

Choose two courses

- AST 106 - Exploring the Cosmos I
- AST 107 - Exploring the Cosmos II
- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology
- CH 101 - Introduction to Chemistry and
- CH 105 - Introductory Chemistry Laboratory
- CH 121 - General Chemistry I and
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II and
- CH 126 - General Chemistry Laboratory II
- PH 100 - Conceptual Physics
- PH 101 - General Physics I
- PH 102 - General Physics II
- PH 111 - General Physics with Calculus I and
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II and
• PH 115 - General Physics Laboratory II

Mathematics at Level 1:

Choose one course based on placement

• MA 107 - Algebra with Applications
• MA 110 - Finite Mathematics
• MA 112 - Precalculus Algebra
• MA 113 - Precalculus Trigonometry
• MA 115 - Precalculus Algebra and Trigonometry
• MA 120 - Calculus with Applications
• MA 171 - Calculus A

History, Social and Behavioral Sciences 18 Semester Hours

(Students may take no more than 6 semester hours in a single discipline.)

History:

Choose one sequence

• HY 101 - Western Civilization, Part I and
• HY 102 - Western Civilization, Part II

• HY 103 - World History to 1500 and
• HY 104 - World History from 1500

Social and Behavioral Sciences:

Choose four courses

• GS 200 - Global Systems and Cultures
• GY 105 - World Regional Geography
• GY 110 - Principles of Human Geography
• PSC 101 - American Government
• PSC 102 - Comparative Politics and Foreign Governments
• PY 101 - General Psychology I
• PY 201 - Life-Span Development
• SOC 100 - Introduction to Sociology
• SOC 105 - Introduction to Cultural Anthropology
• ECN 142 - Principles of Macroeconomics
• ECN 143 - Principles of Microeconomics

Component 2:
Major Requirements for the B.A. Degree. 30 hrs. or more, dependent upon major. A minimum of 30 semester hours in a program of study in a single department with at least 21 of those hours 300-level or above. Consult individual departments for specific requirements.

Component 3:

Minor Requirements for the B.A. Degree. 18 hrs. or more, dependent upon major. A minimum of 18 semester hours in a single discipline with a minimum of 12 hours at the 300-level or above. In lieu of a minor, students may choose a second major or a minimum of 21 semester hours in cognate studies drawn from two or more closely related disciplines. Some major emphases in music (performance, jazz, music technology, and music education) are not required to have a minor.

Component 4:

Electives. The student may select any elective courses outside the major and minor as needed to complete the university requirement of a minimum of 128 hours for graduation.

Note(s):

No more than 6 hours of HPE may be counted towards the B.A. degree.

Minimum upper level degree requirements

Minimum Degree Requirements, Bachelor of Arts

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.

Entry Requirements for Music Majors and Minors

Admission to the University of Alabama in Huntsville does not guarantee admission to the UAHuntsville 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.

All applicants are strongly encouraged to audition in person. Taped auditions are acceptable if travel distance precludes a personal audition. For audition dates, please consult the audition application or visit the Department of Music website at www.uah.edu/music.
Components of the Bachelor of Arts in Music

I. General Education Requirements

The General Education Requirements for the B.A. degree are listed at the beginning of the College of Liberal Arts section of the catalog. The student should include MU 100 to fulfill the fine arts options. Music education students must include at least one course in political science for the social science requirement, PY 201, and CM 113; other music majors should choose at least one course in philosophy. Students pursuing majors or minors in engineering or computer science should consult the catalog sections for those departments to determine appropriate science and mathematics requirements.

- MU 100 - Introduction to Music Literature
- PY 201 - Life-Span Development
- CM 113 - Introduction to Rhetorical Communication

II. Music Core

The Music Core consists of a common 40 credit 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.

III. Emphasis

Music majors choose one of five emphases in addition to the Music Core:

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 128 credit hours. This emphasis serves as a traditional liberal arts education. Students with dual interests and abilities will benefit from this degree offering.

Music Core 40 Semester Hours - 22 Upper Level

General Education Requirements 57 Semester Hours

200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
400-Level Studio Instruction (MUA 4_1)
- MUA 498 - Senior Recital

Ensembles (7 credits MUXX 3XXX) At least half must be large conducted ensembles
- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
- MU 201 - Theory of Music I
- MU 202 - Theory of Music II
- MU 301 - Theory of Music III
- MU 203 - Musicianship Skills I
- MU 204 - Musicianship Skills II
- MU 303 - Musicianship Skills III
- MU 311 - History of Music I
- MU 312 - History of Music II
- MU 325 - Conducting
- MU 199 - Concert Attendance – 0 credit x 7 sem.

Minor and Electives 31 Credits - 17 Upper Level

Total Semester Hours 128 - 39 Upper Level

Performance Emphasis

The Bachelor of Arts in Music with an Emphasis in Performance includes the General Education Requirements, the Music Core, an additional 21 hours of music coursework, and electives to total 128 credit hours. Students desiring additional performance studies beyond the standard music major will benefit from this degree offering.

Music Core 40 Semester Hours - 22 Upper Level

General Education Requirements 57 Semester Hours

200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
400-Level Studio Instruction (MUA 4_1)
- MUA 498 - Senior Recital

Ensembles (7 credits MUX 3XX) At least half must be large conducted ensembles
- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
- MU 301 - Theory of Music III
- MU 203 - Musicianship Skills I
- MU 204 - Musicianship Skills II
- MU 303 - Musicianship Skills III
- MU 311 - History of Music I
- MU 312 - History of Music II
- MU 325 - Conducting
- MU 199 - Concert Attendance – 0 credit x 7 sem.
- MU 201 - Theory of Music I
- MU 202 - Theory of Music II
Additional Performance Emphasis Courses: 21 Semester Hours - 17 Upper Level

- 400-Level Studio Instruction (MUA 4_1)
- MUA 499 - Performance Emphasis Recital

Ensembles (5 credits MUX 3XX) At least half must be large conducted ensembles
- MU 302 - Musical Materials of the Modern Era
- MU 401 - Form and Analysis
- MU 425 - Advanced Conducting

Music Electives 4 Semester Hours
Upper-Level Music Electives 2 Semester Hours
Piano Proficiency Exam
Electives 10 Semester Hours

Total Semester Hours 128 - 39 Upper Level

Jazz Emphasis

The Bachelor of Arts in Music with an Emphasis in Jazz includes the General Education Requirements, the Music Core, an additional 25 hours of music coursework, and electives to total 128 credit 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 Core 40 Semester Hours - 22 Upper Level

General Education Requirements 57 Semester Hours
- 200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
- 400-Level Studio Instruction (MUA 4_1)
- MUA 498 - Senior Recital

Ensembles (7 credits MUX 3XX) At least half must be large conducted ensembles
- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology

- MU 201 - Theory of Music I
- MU 202 - Theory of Music II
- MU 301 - Theory of Music III

- MU 203 - Musicianship Skills I
- MU 204 - Musicianship Skills II
- MU 303 - Musicianship Skills III
- MU 311 - History of Music I
- MU 312 - History of Music II
- MU 325 - Conducting
- MU 199 - Concert Attendance – 0 credit x 7 sem.

Additional Jazz Emphasis Courses: 25 Semester Hours - 16 Upper Level

- Jazz Studio Instruction (3 x 1.5) (MUJ 2_1)
- MUJ 498 - Senior Jazz Recital
- MUJ 131 - Jazz Studio Instruction in Piano (2 x 1)
- MU 205 - Jazz Theory
- MUJ 301 - Jazz Improvisation I
- MUJ 302 - Jazz Improvisation II
- MU 316 - History and Appreciation of Jazz
- MU 317 - Jazz Arranging
- MUX 398 - Jazz Ensemble 4 Semester Hours
- MUX 386 - Jazz Chamber Ensembles 2 Semester Hours

Electives 6 Semester Hours - 2 Upper Level

Total Semester Hours 128 - 39 Upper Level

Music Technology Emphasis

The Bachelor of Arts in Music with an Emphasis in Music Technology includes the General Education Requirements, the Music Core, an additional 22 hours of music technology, electrical engineering, and computer engineering coursework, and electives to total 128 credit hours. The core of this emphasis is a traditional music degree, with the same “classical” performance requirements as in the other music programs. Students with dual interests in music and computer technology will benefit from this degree offering.

Music Core 40 Semester Hours - 22 Upper Level

General Education Requirements 57 Semester Hours

- 200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
- 400-Level Studio Instruction (MUA 4_1)
- MUA 498 - Senior Recital

- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
• MU 201 - Theory of Music I
• MU 202 - Theory of Music II
• MU 301 - Theory of Music III

• MU 203 - Musicianship Skills I
• MU 204 - Musicianship Skills II
• MU 303 - Musicianship Skills III

• MU 311 - History of Music I
• MU 312 - History of Music II

• MU 325 - Conducting
• MU 199 - Concert Attendance – 0 credit x 7 sem.

Additional Music Technology Emphasis Courses: 22 Semester Hours - 9 Upper Level

• MU 306 - Music Technology
• MU 404 - Music Technology Individual Projects (3x1)
• MU 406 - Internship in Music Technology
• EE 100 - Fundamentals of Computer, Electrical and Optical Engineering
• EE 202 - Introduction to Digital Logic Design
• EE 203 - Digital Logic Design Lab
• CPE 112 - Introduction to Computer Programming in Engineering
• CPE 212 - Fundamentals of Software Engineering
  Electives 9 Semester Hours - 8 Upper Level

Total Semester Hours 128 - Upper Level 39

Music Education Emphasis

The Bachelor of Arts in Music with an Emphasis in Music Education includes the General Education Requirements, the Music Core, an additional 21 hours of music and professional music education coursework, and 32 hours of courses within the Department of Education, for a total of 150 credit 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 vocal 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.

Vocal Music Core 40 Semester Hours - 22 Upper Level

  General Education Requirements 57 Semester Hours
200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
400-Level Studio Instruction (MUA 4_1)
• MUA 498 - Senior Recital

Ensembles (7 credits MUX 3XX) At least half must be large conducted ens
• MU 100 - Introduction to Music Literature
• MU 106 - Introduction to Music Technology
• MU 201 - Theory of Music I
• MU 202 - Theory of Music II
• MU 301 - Theory of Music III
• MU 203 - Musicianship Skills I
• MU 204 - Musicianship Skills II
• MU 303 - Musicianship Skills III
• MU 311 - History of Music I
• MU 312 - History of Music II
• MU 325 - Conducting
• MU 199 - Concert Attendance – 0 credit x 7 sem.

Additional Music Education Emphasis Courses: 21 Semester Hours - 17 Upper Level

Secondary Instrument:
• MUA 131 - Studio Instruction in Piano (3 x 1)
• MUA 141 - Studio Instruction in Guitar or
• MUA 151 - Studio Instruction in Strings
• MU 322 - Diction for Singers
• MUE 321 - Choral/Instrumental Directed Observation
• MU 302 - Musical Materials of the Modern Era
• MU 401 - Form and Analysis
• MU 416 - Orchestration
• MU 425 - Advanced Conducting
• MUE 328 - Teaching General Music
• MUE 428 - Vocal/Choral Methods for Secondary Schools
  Piano Proficiency Exam

Education 34 Semester Hours - 34 Upper Level
- ED 301 - Introduction to Education Practicum
- ED 305 - Foundations of Education in the United States
- ED 308 - Educational Psychology
- ED 309 - Classroom and Behavior Management
- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
- ED 499 - P-12 Internship (Music)

Total Semester Hours 150 - 71 Upper Level

Instrumental Music Core 40 Semester Hours - 22 Upper Level

- 200-Level Studio Instruction (4 x 1.5) (MUA 2_1)
- 400-Level Studio Instruction (MUA 4_1)
- MUA 498 - Senior Recital

Ensembles (7 credits MUX 3xx) At least half must be large conducted ensembles
- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
- MU 201 - Theory of Music I
- MU 202 - Theory of Music II
- MU 301 - Theory of Music III
- MU 203 - Musicianship Skills I
- MU 204 - Musicianship Skills II
- MU 303 - Musicianship Skills III
- MU 311 - History of Music I
- MU 312 - History of Music II
- MU 325 - Conducting
- MU 199 - Concert Attendance – 0 credit x 7 sem.

Additional Music Education Emphasis Courses: 21 Semester Hours - 16 Upper Level

Secondary Instrument:
- MUA 161 - Studio Instruction in Woodwinds or (3x1)
• MUA 171 - Studio Instruction in Brass (3x1)
• MUA 141 - Studio Instruction in Guitar or
• MUA 151 - Studio Instruction in Strings
• MUA 181 - Studio Instruction in Percussion
• MUE 321 - Choral/Instrumental Directed Observation
• MU 302 - Musical Materials of the Modern Era
• MU 401 - Form and Analysis
• MU 416 - Orchestration
• MU 425 - Advanced Conducting
• MUE 328 - Teaching General Music
• MUE 429 - Organizing and Directing Instrumental Groups in Secondary School

Piano Proficiency Exam

Education 32 Semester Hours - 32 Upper Level

• ED 301 - Introduction to Education Practicum
• ED 305 - Foundations of Education in the United States
• ED 308 - Educational Psychology
• ED 309 - Classroom and Behavior Management
• EDC 301 - Teaching the Exceptional Child (Survey Part I)
• EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
• ED 408 - Teaching Reading in the Content Area
• ED 410 - Foundations of Educational Evaluation
• ED 499 - P-12 Internship (Music)

Total Semester Hours 150 - 70 Upper Level

Music for Second Area of Study for Elementary Education Teacher Education Candidates

Students majoring in elementary education may select music as their second area of study. See major requirements in Education section.

Seventeen hours in music are required:

Studio Instruction or Ensembles (4 x 1)
• MU 100 - Introduction to Music Literature
• MU 108 - Introduction to Music Theory
• MU 201 - Theory of Music I
• MU 203 - Musicianship Skills I
• MUE 328 - Teaching General Music

Total Semester Hours: 17 - 3 Upper Level

Philosophy, BA

Students majoring in philosophy must complete a minimum of 30 semester hours in philosophy with at least 21 hours at the 300-level or above.

The following courses are required of all philosophy majors:

• PHL 201 - Introduction to Logic
• PHL 202 - Introduction to Ethics
• PHL 301 - Ancient Philosophy
• PHL 302 - Modern Philosophy
• PHL 395 - Junior Research Seminar

And any one chosen from:

• PHL 401 - Metaphysics
• PHL 402 - Epistemology
• PHL 403 - Advanced Moral Philosophy

Additional Information

Philosophy majors must also complete a minor consisting of a minimum of 18 hours in a single discipline (with other requirements as specified by the minor department) or a minimum of 21 semester hours in a cognate area of closely related courses approved by the Philosophy Department, with 12 of these hours at the 300-level or above. 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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Political Science, BA
Students wishing to major in political science must complete a minimum of 33 semester hours in political science, including:

- PSC 101 - American Government
- PSC 102 - Comparative Politics and Foreign Governments
- PSC 103 - State and Local Government
- PSC 260 - Introduction to International Relations
- PSC 330 - Classical Political Philosophy
- PSC 332 - Modern Political Philosophy
- PSC 484 - Senior Seminar in Political Science (during the junior or senior year)

In addition

Each political science major must complete SOC 333 or PY 300.

Students with a major in political science must choose either a minor from another discipline or 21 hours of cognate studies involving courses from two or more disciplines, of which 12 hours must be in upper level courses with a minimum of 6 hours from each discipline. 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 a Program of Study by meeting with the College of Liberal Arts Advisor (Morton Hall 220). A Political Science Academic Advisor will be assigned to the student and will meet with her or him in the Program of Study development process. Transfer students are advised to consult with the chair of the department before scheduling courses. Guidelines for curriculum planning in political science are available in the department office. These guidelines are designed to consider such intellectual and vocational interests as pre-law training, international studies, public service, and preparation for graduate study.

- SOC 303 - Statistics for the Social Sciences or
- PY 300 - Psychological Statistics

Second Area of Study for Elementary Education Majors

- PSC 101 - American Government
- PSC 102 - Comparative Politics and Foreign Governments
- PSC 103 - State and Local Government
- PSC 484 - Senior Seminar in Political Science
  6 additional hours of political science

Psychology, BA
The program of study for a psychology major includes 35 hours of psychology with at least 26 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.

Students planning to major in psychology are advised to

1. read and follow prerequisite requirements
2. complete the following courses no later than the sophomore year.
   - PY 101 - General Psychology I
   - PY 102 - Applications in Psychology
   - PY 300 - Psychological Statistics
   - PY 302 - Experimental Psychology

Additional Information

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Psychology for Students Seeking Teacher Certification

Students desiring certification should obtain preliminary academic counseling in the Department of Education. A student majoring in elementary education may choose psychology as the Second Area of Study for Elementary Education Teacher Candidates. Course work required for a second area of study for elementary education majors is specified below in Second Area of Study for Elementary Education Majors. Certification requirements can be found in the Department of Education section. Curricula which include teacher certification may require more than the minimum total of 128 hours for the degree.

Prerequisites

All psychology courses numbered 200 and above require satisfactory completion of PY 101 and most require PY 102. Prior to enrollment in PY 302, a student must complete PY 300, Psychological Statistics. Preferably, courses numbered at the 400 level should not be taken prior to the senior year; in no case should a student enroll in these courses until the last semester of the junior year.

Curriculum for Majors

Required:

- PY 101 - General Psychology I
- PY 102 - Applications in Psychology
- PY 300 - Psychological Statistics
- * PY 302 - Experimental Psychology
- PY 498 - Human Research I
  Two courses from Group A 6 Semester Hours
  Two courses from Group B 6 Semester hours
  Elective 300-level or above 3 Semester Hours
  Elective 3 Semester Hours

Group A:

- PY 314 - Learning
- PY 316 - Perception
- PY 380 - Cognition
- PY 436 - Biological Psychology

Group B:

- PY 301 - Personality
- PY 315 - Developmental Psychology
- PY 375 - Social Psychology
- PY 433 - Abnormal Psychology

Total: 35 Semester Hours

Note(s):

*PY 300 is a prerequisite for PY 302.

Second Area of Study for Elementary Education Majors

- PY 101 - General Psychology I
- PY 102 - Applications in Psychology
- PY 314 - Learning
- or PY 380 - Cognition
- PY 315 - Developmental Psychology
- PY 375 - Social Psychology
• PY 301 - Personality
  or PY 433 - Abnormal Psychology

Total: 18 Semester Hours

Sociology, BA

Students who major in sociology must complete 34 hours of sociology courses made up of required and elective courses.

Required Courses: 13 Hours

• SOC 100 - Introduction to Sociology
• SOC 202 - Research Methods
• SOC 303 - Statistics for the Social Sciences
• SOC 302 - Sociological Theory

Transfer students only:

• SOC 206 - Marriage and Family

Electives: 21 Hours

  9 hours in Sociology courses at any level (6 hours for transfer students)
  12 hours in Sociology courses at level 300 or above

Additional Information

Students are advised to officially declare a major and to obtain a Program of Study by the beginning of the sophomore year. As with all students in the College of Liberal Arts, our students will initiate the Program of Study through the College of Liberal Arts Academic Advisor (Morton Hall, Room 220) but they are encouraged to first consult with the Sociology Department Chair or any member of our faculty (all located in Morton Hall, Room 344).

For all others, including those planning to attend graduate school in the field, a broad variety of courses is advised, and students should consult closely with a faculty member.

Suggested courses for students planning careers in social services include:
SOC 206 - Marriage and Family
SOC 306 - Sociology of Gender
SOC 410 - Sociology of Childhood
SOC 319 - Deviance and Social Control
SOC 325 - The Sociology of Education
SOC 330 - Race and Ethnicity
SOC 350 - Social Stratification
SOC 375 - Social Psychology
SOC 435 - Sociology of Social Movements
SOC 102 - Analysis of Social Problems

For students planning careers in law or government policy suggested courses include:

SOC 319 - Deviance and Social Control
SOC 350 - Social Stratification
SOC 435 - Sociology of Social Movements
SOC 302 - Sociological Theory
SOC 102 - Analysis of Social Problems

Suggested courses for students planning careers in business include:

SOC 455 - Sociology of Work and Occupations
SOC 330 - Race and Ethnicity
SOC 415 - Cultural Change
SOC 350 - Social Stratification
SOC 376 - Mass Media in America: Theory and Criticism

Sociology as a Second Area of Study for Elementary Education Teacher Candidates

Students majoring in elementary education may select sociology as their second area of study. (See requirements in the Department of Education’s section.) Students must complete a minimum of 18 hours in sociology, 12 of which must be above the 300-level. Courses should be chosen with the help of the education advisor and approval of the chair of the Department of Sociology.

The recommended program is:
- SOC 100 - Introduction to Sociology
- SOC 206 - Marriage and Family
- SOC 325 - The Sociology of Education
  
  3 additional courses in sociology at the level of 300 or above

These courses are particularly recommended for future teachers:

- SOC 306 - Sociology of Gender
- SOC 410 - Sociology of Childhood
- SOC 319 - Deviance and Social Control
- SOC 330 - Race and Ethnicity
- SOC 350 - Social Stratification
- SOC 375 - Social Psychology

**Studio Art, BA**

The Studio Discipline:

A. Lower Division Requirements 27 Semester Hours

1. Art Studio Requirements

   - ARS 123 - Two-Dimensional Design and Color Theory
   - ARS 140 - Three-Dimensional Design
   - ARS 160 - Introduction to Drawing
   - ARS 260 - Intermediate Drawing
     
     Three additional 200-level ARS courses 9 Semester Hours

2. Art History Requirements

   Choose two

   - ARH 100 - Art History Survey: Ancient to Medieval
   - ARH 101 - Art History Survey: Renaissance to Modern
ARH 103 - Art History Survey: Art in Non-Western Traditions

Note(s):

There are no prerequisites for ARH 100, 101 and 103, ARS 123, 140, and 160, which introduce the student to basic concepts and skills in the visual arts.

B. Upper Division Requirements 24 Semester Hours

See Note Below

Five ARS courses at the 300 level 15 Semester Hours
Two ARS courses at the 400 level 6 Semester Hours
• ARH 309 - Contemporary Art and Issues

Graphic Design

• ARS 331 - Graphic Design: Layout and Print Production
• ARS 332 - Graphic Design: Web Design
• ARS 430 - Advanced Graphic Design: Print Media
• ARS 431 - Advanced Graphic Design: Digital Media

Painting/Drawing

• ARS 360 - Advanced Drawing
• ARS 375 - Painting: Traditional Approaches
• ARS 376 - Painting: Contemporary Approaches
• ARS 377 - Painting: Mixed Media
• ARS 475 - Advanced Painting: Traditional Approaches
• ARS 476 - Advanced Painting: Contemporary Approaches
• ARS 477 - Advanced Painting: Mixed Media

Printmaking

• ARS 381 - Printmaking: Etching and Lithography
• ARS 383 - Printmaking: Relief and Screen-printing
• ARS 481 - Advanced Printmaking: Etching and Lithography
• ARS 483 - Advanced Printmaking: Relief and Screen-printing
Photography

- ARS 350 - Photography: Digital Image-Making Processes
- ARS 352 - Photography: Traditional Darkroom Processes
- ARS 353 - Photography: Experimental and Historic Processes
- ARS 450 - Advanced Photography: Digital Image-Making
- ARS 452 - Advanced Photography: Traditional Darkroom Processes
- ARS 453 - Advanced Photography: Experimental and Historic Processes

Sculpture

- ARS 340 - Sculpture: Assemblage
- ARS 341 - Sculpture: Carving
- ARS 342 - Sculpture: Casting
- ARS 346 - Sculpture: Figure Modeling
- ARS 440 - Advanced Sculpture: Assemblage
- ARS 441 - Advanced Sculpture: Carving
- ARS 442 - Advanced Sculpture: Casting

Other

- ARS 393 - Multi-Media
- ARS 493 - Advanced Multi-Media
- ARS 495 - Technical Problems
courses at Alabama A&M³

C. Total semester hours within the Department of Art and Art History 51
Semester Hours

Note(s):

A student choosing to specialize in a specific studio area may take no more than four upper-level courses in an individual area.

Note 1: Majors with a studio art focus must satisfy an exit exhibition or portfolio requirement. Students emphasizing graphic design must successfully present a comprehensive portfolio as part of the coursework for their final 400-level
Advanced Graphic design course. All other art majors with a studio art focus must successfully mount a senior exhibition of their work. Contact the Department of Art and Art History for specific requirements.

Note 2: 400-level courses are to be taken only after successful completion of the appropriate 300-level courses.

Note 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 ART 305 Beginning Ceramics; ART 306 Advanced Ceramics; ART 307 Beginning Jewelry; ART 308 Advanced Jewelry.

Bachelor of Science

Biological Sciences, B.S.

A major in biological sciences requires a minimum of 36 semester hours of coursework

- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology
- BYS 219 - Genetics and Evolution
- BYS 300 - Cell and Developmental Biology
- BYS 490 - Senior Seminar

Model four year plan for major in Biological Sciences and minor in Chemistry.

Model four year plan for major in Biological Sciences and minor in Chemistry. Other minors and major concentrations are possible. The four year plans should be understood as examples of the many four year plans that are possible.

First Year

Fall: 14-15 Hours

- BYS 119 - Principles of Biology
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- EH 101 - Freshman Composition
MA 120 - Calculus with Applications or
MA 171 - Calculus A

Spring: 14-15 Hours

- BYS 120 - Organismal Biology
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- EH 102 - Freshman Composition

- MA 172 - Calculus B or
- CS 100 - Introduction to Computers and Programming
- CS 102 - Introduction to C Programming
  CS 104 (Programming course) 3-4 Semester Hours

Second Year

Fall: 18 Hours

- BYS 219 - Genetics and Evolution
  or BYS elective 4 Semester Hours

- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
  EH (literature) 3 Semester Hours
- HY 101 - Western Civilization, Part I

- PH 101 - General Physics I or
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

Spring: 17 Hours

- BYS 219 - Genetics and Evolution
  or BYS elective 4 Semester Hours
HU/SS* 3 Semester Hours

EH (literature) or HU/SS* 3 Semester Hours

- HY 102 - Western Civilization, Part II
  or HU/SS* 3 Semester Hours

- PH 102 - General Physics II or
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

Third Year

Fall: 18-19 Hours

- BYS 300 - Cell and Developmental Biology
  BYS elective above 300 level 4 Semester Hours

- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I

- CM 113 - Introduction to Rhetorical Communication

- ST 281 - Elements of Statistical Analysis
  or HU/SS* 3-4 Semester Hours

Spring: 17-20 Hours

- BYS 300 - Cell and Developmental Biology
  or BYS elective above 300 level 3 Semester Hours

  BYS elective above 300 level 3-5 Semester Hours

- CH 332 - Organic Chemistry II
- CH 336 - Organic Chemistry Laboratory II

- EH 301 - Technical Writing

- ST 281 - Elements of Statistical Analysis
  or HU/SS* 3-4 Semester Hours
Fourth Year

Fall: 15-18 Hours

- BYS 490 - Senior Seminar
  or BYS elective above 300 level 2-4 Semester Hours

- BYS elective above 300 level 3-4 Semester Hours

- BYS 361 - General Biochemistry
- CH 362 - General Biochemistry Laboratory I

  Elective 3 Semester Hours
  HU/SS* 3 Semester Hours

Spring: 14-17 Hours

- BYS 490 - Senior Seminar
  or BYS elective above 300 level 2-4 Semester Hours

- BYS elective above 300 level 3-4 Semester Hours

- Elective 3 Semester Hours
- Elective 3 Semester Hours
- HU/SS* 3 Semester Hours

Total: 128 min.

Biological Sciences composite major in biological-environmental sciences, BS

An additional 6 hours from advanced ES courses with this program qualifies students for an environmental science certificate. Students should also see Environmental Science.

Recommended course work:
• MA 120 - Calculus with Applications
  or
• MA 171 - Calculus A

• ST 281 - Elements of Statistical Analysis

• PH 101 - General Physics I
• PH 102 - General Physics II

  or

• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I

BYS core courses and

• BYS 312 - Principles of Ecology
• BYS 321 - General Microbiology I
• BYS 364 - Biogeography

• ESS 102 - Physical Geology
• ESS 303 - Classification and Physical Causes of Climates

  or

• ESS 411 - Introduction to Geographical Information Systems
• ESS 321 - Pollution Problems
• ESS 331 - Global Climate Change and Infectious Disease

Biological Sciences for Secondary Education, BS

Recommended course work:
CH 101 - Introduction to Chemistry
CH 105 - Introductory Chemistry Laboratory
CH 201 - Elementary Organic Chemistry
CH 301 - Elementary Biochemistry

or

CH 121 - General Chemistry I
CH 123 - General Chemistry II
CH 125 - General Chemistry Laboratory I
CH 126 - General Chemistry Laboratory II
CH 223 - Quantitative Analysis
CH 224 - Quantitative Analysis Laboratory
CH 331 - Organic Chemistry I
CH 332 - Organic Chemistry II
CH 335 - Organic Chemistry Laboratory I
CH 336 - Organic Chemistry Laboratory II
CH 361 - General Biochemistry I
CH 362 - General Biochemistry Laboratory I

BYS core courses and biological science electives including

- BYS 312 - Principles of Ecology
- BYS 321 - General Microbiology I

Professional education courses

(See Education Dept.)

Biological Sciences with a Psychology Minor (Psychobiology program), BS

Recommended course work:

- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory
- CH 201 - Elementary Organic Chemistry
- CH 301 - Elementary Biochemistry
• PY 101 - General Psychology I
• PY 102 - Applications in Psychology
• PY 436 - Biological Psychology

one psychology elective from Group B
9 hours upper level PY electives
• PY 302 - Experimental Psychology (strongly recommended)

Biological Sciences with emphases in Premedical, Predental, Preveterinary; Chemistry Minor, BS

Recommended course work:

• MA 171 - Calculus A
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

or
• PH 101 - General Physics I
• PH 102 - General Physics II

BYS core courses and
• BYS 317 - Vertebrate Zoology
• BYS 361 - General Biochemistry
• BYS 362 - General Biochemistry Laboratory
• BYS 363 - General Biochemistry II

532 plus electives

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I
• CH 332 - Organic Chemistry II
• CH 336 - Organic Chemistry Laboratory II

plus electives

Biological Sciences with emphasis in Biochemistry; Chemistry Minor, BS

Recommended course work:

• MA 171 - Calculus A
• MA 172 - Calculus B

• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

BYS core courses and
• BYS 321 - General Microbiology I
• BYS 361 - General Biochemistry
• BYS 362 - General Biochemistry Laboratory
• BYS 363 - General Biochemistry II
• BYS 365 - General Biochemistry Laboratory II

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
• CH 336 - Organic Chemistry Laboratory II

• CH 347 - Biophysical Chemistry I
• CH 345 - Experimental Physical Chemistry I
Biological Sciences with emphasis in exercise physiology, BS

Selected supporting coursework in cognate studies (minor) may be used to create an emphasis in sports medicine or athletic training. Additional coursework may be required for entry into physical therapy or medical programs.

Recommended course work:

- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

- PH 101 - General Physics I
- PH 102 - General Physics II

  or

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- CH 201 - Elementary Organic Chemistry
- CH 301 - Elementary Biochemistry
- HPE 200 - Contemporary Nutrition
- HPE 205 - First Aid and CPR
- HPE 210 - Beginning Athletic Training
- HPE 300 - Nutrition for Fitness and Sport
- HPE 311 - Advanced Athletic Training
- HPE 312 - Athletic Training Practicum

Biological Sciences, Environmental Biology emphasis, preparatory for graduate study in Ecology or Environmental Science; Chemistry Minor, BS

Recommended course work:

- MA 171 - Calculus A
- ST 281 - Elements of Statistical Analysis
- PH 101 - General Physics I
- PH 102 - General Physics II

or

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- ESS 102 - Physical Geology
- BYS 321 - General Microbiology I
- BYS 312 - Principles of Ecology
- BYS 364 - Biogeography
- BYS 464 - Evolution

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II

- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory

- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I

- CH 332 - Organic Chemistry II
- CH 361 - General Biochemistry I
- CH 362 - General Biochemistry Laboratory I

Biological Sciences, Microbiology emphasis with Chemistry Minor, preparatory for graduate study in Microbiology, BS

Recommended course work:

- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

- PH 101 - General Physics I
- PH 102 - General Physics II
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

BYS core courses and
• BYS 321 - General Microbiology I
• BYS 322 - General Microbiology II
• BYS 430 - Immunology
and biological sciences electives

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
• CH 336 - Organic Chemistry Laboratory II

• CH 361 - General Biochemistry I
• CH 362 - General Biochemistry Laboratory I

Biological Sciences for Secondary Education, BA

Recommended course work:

• CH 101 - Introduction to Chemistry
• CH 105 - Introductory Chemistry Laboratory
• CH 201 - Elementary Organic Chemistry
• CH 301 - Elementary Biochemistry

or
- CH 121 - General Chemistry I
- CH 123 - General Chemistry II
- CH 125 - General Chemistry Laboratory I
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
- CH 332 - Organic Chemistry II
- CH 335 - Organic Chemistry Laboratory I
- CH 336 - Organic Chemistry Laboratory II
- CH 362 - General Biochemistry Laboratory I

BYS core courses and biological science electives including

- BYS 312 - Principles of Ecology
- BYS 321 - General Microbiology I

Professional education courses

(See Education Dept.)

Biological Sciences with a Psychology Minor (Psychobiology program), BA

Recommended course work:

- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory
- CH 201 - Elementary Organic Chemistry
- CH 301 - Elementary Biochemistry
- PY 101 - General Psychology I
- PY 102 - Applications in Psychology
- PY 436 - Biological Psychology
  one psychology elective from Group B
  9 hours upper level PY electives
- PY 302 - Experimental Psychology (strongly recommended)

Chemistry, BS
1. The minimum total semester hours required for the B.S. degree is 128. Of these, at least 39 semester hours must be in courses numbered 300 or higher. In addition, the major in chemistry requires the completion of the B.S. General Education Requirements (GER).

2. Completion of a minor consisting of at least 21 hours of course work in any subject other than chemistry. The course requirements for minors can be found in the sections of this catalog dealing with the various departments. An educationally compatible combination of courses from more than one department can be substituted for the minor. This is called Cognate Studies.

3. Completion of sufficient electives to meet the overall minimum hour requirements for the degree.

4. Completion of one of the ten chemistry curricula shown below, or another developed in consultation with a Chemistry Department advisor. Note that Curricula I, III, and VIII specify a minor in biological sciences, Curriculum II specifies a minor in mathematics, and Curriculum VI specifies a physics minor. Curriculum V includes a physics/chemical engineering cognate, while Curriculum IX includes requirements in economics, mathematics and statistics.

Specialization Curricula

The Committee on Professional Training (CPT) of the American Chemical Society (ACS) specifies curricula containing prescribed course sequences that meet the American Chemical Society requirements for professional education at the B.S. level. The chemistry department offers six ACS approved curricula: Biochemistry (Curriculum I), Pure Chemistry (Curriculum II), Forensic Chemistry (Curriculum III), Chemical Education (Curriculum IV), Materials Chemistry (Curriculum V), and Chemical Physics (Curriculum VI), outlined below. The College of Science will recognize completion of any one of these ACS approved curricula by awarding the student a certificate of specialization in that area.

The chemistry major requires

- MA 171 - Calculus A
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
  One science or engineering course outside the major or minor.

Note(s):

These courses may be used to satisfy the GER requirements.

Curriculum I A.C.S. Approved Degree with Emphasis on Biochemistry (Biological Sciences Minor)

This American Chemical Society approved program serves as preparation for medical school, dental school, veterinary school, pharmacy school, graduate study in biochemistry or employment as a clinical chemist. Prospective medical
students should explore their areas of interest outside of the sciences and strive for maximum scholastic achievement. Students following this curriculum in preparation for medical, dental, veterinary, or pharmacy school should consult with the Preprofessional Advisory Committee early in their college program. Premedical students should prepare to take the Medical College Aptitude Test during the spring of their junior year. (For alternative premedical curricula, see Chemistry Curriculum VII and Biological Sciences Example IV.)

**Chemistry: 45 Semester Hours**

- CH 121 - General Chemistry I  
  and  
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II  
  and  
- CH 126 - General Chemistry Laboratory II

- CH 223 - Quantitative Analysis  
  and  
- CH 224 - Quantitative Analysis Laboratory

- CH 331 - Organic Chemistry I  
  and  
- CH 335 - Organic Chemistry Laboratory I

- CH 332 - Organic Chemistry II  
  and  
- CH 336 - Organic Chemistry Laboratory II

- CH 347 - Biophysical Chemistry I  
  and  
- CH 345 - Experimental Physical Chemistry I

- CH 348 - Biophysical Chemistry II  
  and  
- CH 346 - Experimental Physical Chemistry II

- CH 361 - General Biochemistry I  
  and  
- CH 362 - General Biochemistry Laboratory I

- CH 363 - General Biochemistry II  
  and  
- CH 364 - General Biochemistry Laboratory II

- CH 401 - Inorganic Chemistry  
  and  
- CH 402 - Inorganic Chemistry Laboratory

- CH 421 - Instrumental analysis
- CH 491 - Introduction to Chemical Research

Biological Sciences minor: 24 Semester Hours

- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology
- BYS 219 - Genetics and Evolution
- BYS 300 - Cell and Developmental Biology
- BYS 321 - General Microbiology I plus upper level electives.
  These may include BYS 519 or 543 or 547

Curriculum II A.C.S. Approved Pure Chemistry Degree (Mathematics Minor)

This American Chemical Society approved curriculum is designed for a student who plans to do graduate work in chemistry or a related science or desires an industrial position that requires a strong chemical background.

Chemistry: 45 Semester Hours

- CH 121 - General Chemistry I
  and
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
  and
- CH 126 - General Chemistry Laboratory II

- CH 223 - Quantitative Analysis
  and
- CH 224 - Quantitative Analysis Laboratory

- CH 331 - Organic Chemistry I
  and
- CH 335 - Organic Chemistry Laboratory I

- CH 332 - Organic Chemistry II
  and
- CH 336 - Organic Chemistry Laboratory II

- CH 337 - Organic Chemistry Laboratory III
• CH 341 - Physical Chemistry I
  and
• CH 345 - Experimental Physical Chemistry I

• CH 342 - Physical Chemistry II
  and
• CH 346 - Experimental Physical Chemistry II

• CH 361 - General Biochemistry I
  and
• CH 362 - General Biochemistry Laboratory I

• CH 401 - Inorganic Chemistry
  and
• CH 402 - Inorganic Chemistry Laboratory

• CH 421 - Instrumental analysis
  CH 300 level or above elective

Mathematics Minor: 24 Semester Hours

• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations
• MA 244 - Introduction to Linear Algebra
• MA 415 - Introduction to Numerical Methods
  and
• MA 385 - Introduction to Probability and Statistics
  or
• MA 460 - Introduction to Fourier Analysis
  or
• MA 465 - Introduction to Mathematical Modeling

Curriculum III A.C.S. Approved Degree with Emphasis on Forensics (Biological Sciences Minor)

This American Chemical Society approved curriculum is designed for a student who plans to do graduate work in forensics chemistry or a related science or desires an forensics science position.

Chemistry: 44 Semester Hours
• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
  and
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
  and
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
  and
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
  and
• CH 336 - Organic Chemistry Laboratory II

• CH 347 - Biophysical Chemistry I
  and
• CH 345 - Experimental Physical Chemistry I

• CH 348 - Biophysical Chemistry II
  and
• CH 346 - Experimental Physical Chemistry II

• CH 361 - General Biochemistry I
  and
• CH 362 - General Biochemistry Laboratory I

• CH 401 - Inorganic Chemistry
  and
• CH 402 - Inorganic Chemistry Laboratory

• CH 421 - Instrumental analysis

• CH 480 - Selected Topics in Chemistry

• CH 491 - Introduction to Chemical Research

Biological Sciences minor: 23 Semester Hours

• BYS 119 - Principles of Biology
• BYS 120 - Organismal Biology
• BYS 219 - Genetics and Evolution
• BYS 300 - Cell and Developmental Biology
• BYS 321 - General Microbiology I
  Plus upper level electives that may include:
• BYS 430 - Immunology
  or
• BYS 543

• ST 281 - Elements of Statistical Analysis
  Required but not part of the minor.
• PHL 202 - Introduction to Ethics
  Required but not part of the minor.

Curriculum IV A.C.S. Approved Chemistry Major with Emphasis on Chemical Education (Class B High School Teacher’s Certificate)

This plan meets the requirements for an Alabama Class B High School Teacher’s Certificate.

Chemistry: 38 Semester Hours

• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
  and
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
  and
• CH 224 - Quantitative Analysis Laboratory

• CH 315 - Chemistry Teaching Methods

• CH 331 - Organic Chemistry I
  and
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II

• CH 361 - General Biochemistry I
  and

• CH 341 - Physical Chemistry I
  or
• CH 347 - Biophysical Chemistry I
• CH 401 - Inorganic Chemistry

and

• CH 345 - Experimental Physical Chemistry I
  or
• CH 362 - General Biochemistry Laboratory I
  or
• CH 402 - Inorganic Chemistry Laboratory

and

• CH 342 - Physical Chemistry II
  or
• CH 348 - Biophysical Chemistry II
  or
• CH 363 - General Biochemistry II
  or
• CH 421 - Instrumental analysis

and three from

• CH 336 - Organic Chemistry Laboratory II
  or
  CH 345
  or
• CH 346 - Experimental Physical Chemistry II
  or
  CH 362
  or
• CH 364 - General Biochemistry Laboratory II
  or
  CH 402
  CH 421 lab

• BYS 119 - Principles of Biology

• BYS 120 - Organismal Biology
  Professional education courses (See Education Dept. section of catalog.) 39 Semester Hours

Note(s):

1. This curriculum may require more than the minimum total of 128 hours for the B.S. degree.
2. Students pursuing this curriculum should consult with the Department of Education early in their program. Education students are required to pass an exit examination in their teaching field in order to graduate and be recommended for certification.
Curriculum V A.C.S. Approved Chemistry Degree with Emphasis in Materials Science

This program is designed for students who want to pursue graduate studies or employment in materials chemistry.

Chemistry: 43 Semester Hours

- CH 121 - General Chemistry I
  - CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
  - CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
  - CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
  - CH 335 - Organic Chemistry Laboratory I
- CH 332 - Organic Chemistry II
  - CH 336 - Organic Chemistry Laboratory II
- CH 341 - Physical Chemistry I
  - CH 345 - Experimental Physical Chemistry I
- CH 342 - Physical Chemistry II
  - CH 346 - Experimental Physical Chemistry II
- CH 361 - General Biochemistry I
  - CH 362 - General Biochemistry Laboratory I
- CH 401 - Inorganic Chemistry
  - CH 402 - Inorganic Chemistry Laboratory
- CH 421 - Instrumental analysis
- CH 440 - Polymer Synthesis and Characterization
Cognate

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- CHE 294 - Nature and Properties of Materials
- CHE 295 - Nature and Properties of Materials Laboratory
- CHE 459 - Selected Topics in Chemical Engineering
- CHE 494 - Applied Materials Engineering
- MA 201 - Calculus C
- MA 238 - Applied Differential Equations
- MA 244 - Introduction to Linear Algebra

Curriculum VI: Chemistry Major with Emphasis on Chemical Physics

Chemistry: 43 Semester Hours

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
• CH 223 - Quantitative Analysis
  and
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
  and
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
  and
• CH 336 - Organic Chemistry Laboratory II

• CH 341 - Physical Chemistry I

• CH 342 - Physical Chemistry II

• CH 343 - Introduction to Quantum Chemistry

• CH 345 - Experimental Physical Chemistry I

• CH 346 - Experimental Physical Chemistry II

• CH 361 - General Biochemistry I
  and
• CH 362 - General Biochemistry Laboratory I

• CH 401 - Inorganic Chemistry
  and
• CH 402 - Inorganic Chemistry Laboratory

• CH 421 - Instrumental analysis

Minor in Physics: 21 Semester Hours

• PH 110 - Frontiers in Science
• PH 111 - General Physics with Calculus I
• PH 112 - General Physics with Calculus II
• PH 113 - General Physics with Calculus III
• PH 114 - General Physics Laboratory I
• PH 115 - General Physics Laboratory II
• PH 116 - General Physics Laboratory III
• PH 499 - Physics Practicum
 PH 300 level or above elective
 Also Required
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations
• MA 244 - Introduction to Linear Algebra
Curriculum VII General Chemistry Major for Preprofessional Students

The reduced course requirement for the major in chemistry in this curriculum permits the student to prepare for medical or dental school and to sample courses and subjects outside of the major.

Chemistry: 39 Semester Hours

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I
- CH 332 - Organic Chemistry II
- CH 336 - Organic Chemistry Laboratory II
- CH 341 - Physical Chemistry I
- CH 347 - Biophysical Chemistry I
- CH 345 - Experimental Physical Chemistry I
- CH 361 - General Biochemistry I
- CH 362 - General Biochemistry Laboratory I
- CH 401 - Inorganic Chemistry
- CH 402 - Inorganic Chemistry Laboratory
- CH 421 - Instrumental analysis

plus CH 300 level or above elective

Curriculum VIII Chemistry Major for Pre-Pharmacy Students
Chemistry - biological sciences program designed to prepare students for admission to pharmacy doctorate or pharmacology Ph.D. graduate programs. This major meets all of the requirements for admission to Auburn or Samford pharmacy schools.

Chemistry: 40 Semester Hours

- CH 121 - General Chemistry I
  and
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
  and
- CH 126 - General Chemistry Laboratory II

- CH 223 - Quantitative Analysis
  and
- CH 224 - Quantitative Analysis Laboratory

- CH 331 - Organic Chemistry I
  and
- CH 335 - Organic Chemistry Laboratory I

- CH 332 - Organic Chemistry II
  and
- CH 336 - Organic Chemistry Laboratory II

- CH 347 - Biophysical Chemistry I
  and
- CH 345 - Experimental Physical Chemistry I

- CH 348 - Biophysical Chemistry II
  and
- CH 346 - Experimental Physical Chemistry II

- CH 361 - General Biochemistry I
  and
- CH 362 - General Biochemistry Laboratory I

- CH 401 - Inorganic Chemistry
  and
- CH 402 - Inorganic Chemistry Laboratory

- CH 421 - Instrumental analysis

Biological Sciences minor: 32 Semester Hours
• BYS 119 - Principles of Biology
• BYS 120 - Organismal Biology
• BYS 219 - Genetics and Evolution
• BYS 300 - Cell and Developmental Biology
• BYS 313 - Anatomy and Physiology I
• BYS 314 - Anatomy and Physiology II
• BYS 321 - General Microbiology I
• BYS 430 - Immunology

Two HPE courses 4 Semester Hours

Note(s):

1. This curriculum may require more than the minimum total of 128 hours for the B.S. degree.
2. Students pursuing this curriculum should consult with the College of Science advisor early in their program; there are very specific general education requirements for pre-pharmacy students.

Curriculum IX Chemical Business Curriculum

This curriculum is designed to prepare a student to perform business functions in the chemical or pharmaceutical industry.

Chemistry: 36 Semester Hours

• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
  and
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
  and
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
  and
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
  and
• CH 336 - Organic Chemistry Laboratory II

• CH 341 - Physical Chemistry I
  or
• CH 347 - Biophysical Chemistry I
• CH 345 - Experimental Physical Chemistry I
• CH 361 - General Biochemistry I
  and
• CH 362 - General Biochemistry Laboratory I
• CH 401 - Inorganic Chemistry
  and
• CH 402 - Inorganic Chemistry Laboratory
  and
• CH 421 - Instrumental analysis
• ECN 142 - Principles of Macroeconomics
  and
• ECN 143 - Principles of Microeconomics should be included in Area V of the GER.

Business Minor: 21 Semester Hours

• ACC 211 - Financial Accounting
• ACC 212 - Management Accounting
• BLS 211 - Legal Environment of Business
• MGT 301 - Managing Organizations
• MKT 301 - Principles of Marketing
• MGT 450 - International Business
• MSC 385 - Production/Operations Management

Statistics: 3 Semester Hours

• MSC 287 - Business Statistics I
  or
• MA 385 - Introduction to Probability and Statistics
  or
• ISE 390 - Probability and Engineering Statistics I
  and
• MSC 288 - Business Statistics II
  or
• MA 487 - Introduction to Mathematical Statistics
  or
• ISE 391 - Probability and Engineering Statistics II

Of these, MA 385 and MA 487 can be used to satisfy Area V of the GER

Microcomputers: 3 Semester Hours

• CS 102 - Introduction to C Programming

• CS 103 - Introduction to Programming using Java
  or
• CS 121 - Computer Science I
  or
  MIS 146

  or

  MIS 102
  MIS 104
  MIS 106

Note(s):

1. Students interested in the pharmaceuticals industry may wish to take CH 363 and CH 364 and/or one or more courses in biology.
2. A student can satisfy the statistics requirement and add a second minor in mathematics simply by electing the sequence MA 171, 172, 201, 244, 385, and 487.

Curriculum X Basic Chemistry Curriculum

This curriculum is designed for students who want to combine a major in chemistry with a major in another subject.

Chemistry: 37 Semester Hours

• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
  and
• CH 126 - General Chemistry Laboratory II

• CH 223 - Quantitative Analysis
and
• CH 224 - Quantitative Analysis Laboratory

• CH 331 - Organic Chemistry I
and
• CH 335 - Organic Chemistry Laboratory I

• CH 332 - Organic Chemistry II
and
• CH 336 - Organic Chemistry Laboratory II

• CH 341 - Physical Chemistry I
or
• CH 347 - Biophysical Chemistry I

• CH 342 - Physical Chemistry II
or
• CH 348 - Biophysical Chemistry II

• CH 345 - Experimental Physical Chemistry I

• CH 361 - General Biochemistry I

• CH 401 - Inorganic Chemistry

and

• CH 421 - Instrumental analysis

Notes applying to all curricula above:

a. Credit may be obtained for Chemistry 121, 123, 125, and 126 by making a satisfactory score on the CLEP examination. This examination is offered at various times during the year through the Office of Testing Services. Students pursuing credit by examination should consult the Chemistry Department before taking the examination. Credit is also granted to a student who submits a score of 3 or higher on the Advanced Placement Programs of the College Entrance Examination Board.

b. Transfer students wishing to major in chemistry must complete at least 9 semester hours of chemistry at the level of 300 or above at UAHuntsville. Courses in organic chemistry completed at the junior college level may be used to satisfy prerequisite requirements for upper level chemistry courses at UAHuntsville and total hour requirements but do not count toward the upper level (300+) hour requirements of the major.

c. No credit toward the chemistry major is given for CH 101/105, 201, and 301, or any mathematics course numbered lower than MA 171. A student requiring any of these courses should understand that the total credit hours of course work required to meet all the degree requirements may exceed the minimum of 128 hours required for the B.S. degree.

d. Unless attention is given to the sequence in which courses are scheduled, chemistry majors may experience difficulty in completing the required courses within a four year-period. Students should plan to complete all the mathematics and physics courses required by their chosen curriculum before the fall semester of their junior year.

Model four year plan for major in Chemistry and minor in Biology.
The chemistry major requires completion of one of the following chemistry curricula: Curriculum I A.C.S. Approved Degree with Emphasis on Biochemistry (Biological Sciences Minor), Curriculum II A.C.S. Approved Pure Chemistry Degree (Mathematics Minor), Curriculum III General Chemistry Major for Preprofessional Students, Curriculum IV Chemistry Major with Emphasis on Chemical Education (Class B High School Teacher’s Certificate), Curriculum V Basic Chemistry Curriculum, Curriculum VI Chemistry Major with Emphasis on Chemical Physics, Curriculum VII Chemistry Major with Emphasis in Materials Science, or Curriculum VIII Chemical Business Curriculum. The chemistry major requires MA 171; MA172; PH 111, 112, 114, 115; CS 100, 102, or higher; and one science or engineering course outside of major or minor.

Model four year plan for major in Chemistry and minor in Biology. Other minors and major concentrations are possible. The four year plans should be understood as examples of the many four year plans that are possible.

First Year

Fall: 15 Hours

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- BYS 119 - Principles of Biology
- EH 101 - Freshman Composition
- MA 171 - Calculus A

Spring: 15 Hours

- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- BYS 120 - Organismal Biology
- EH 102 - Freshman Composition
- MA 172 - Calculus B

Second Year

Fall: 18 Hours

- CH 331 - Organic Chemistry I
- CH 335 - Organic Chemistry Laboratory I
• BYS 219 - Genetics and Evolution
  Fine arts (GER) 3 Semester Hours
• HY 101 - Western Civilization, Part I

• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

Spring: 18 Hours

• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory
• CH 332 - Organic Chemistry II
• CH 336 - Organic Chemistry Laboratory II
• CS 102 - Introduction to C Programming
• HY 102 - Western Civilization, Part II
  or social science (GER)* 3 Semester Hours
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

Third Year

Fall: 15 Hours

• CH 347 - Biophysical Chemistry I
• CH 345 - Experimental Physical Chemistry I
• CH 361 - General Biochemistry I
• CH 362 - General Biochemistry Laboratory I
• BYS 300 - Cell and Developmental Biology
  Social Science (GER) 3 Semester Hours

Spring: 15 Hours
• CH 348 - Biophysical Chemistry II
• CH 346 - Experimental Physical Chemistry II

• CH 363 - General Biochemistry II
• CH 364 - General Biochemistry Laboratory II

• BYS 321 - General Microbiology I
  Social Science (GER) 3 Semester Hours

Fourth Year

Fall: 17-18 Hours

• CH 401 - Inorganic Chemistry
• CH 421 - Instrumental analysis
  BYS elective 3 Semester Hours
  Literature (GER) 3 Semester Hours
  Science Elective 3-4 Semester Hours
• CH 491 - Introduction to Chemical Research

Spring: 16-17 Hours

• CH 402 - Inorganic Chemistry Laboratory
  Science Elective 3-4 Semester Hours
• EH 301 - Technical Writing
• CM 113 - Introduction to Rhetorical Communication
  Literature/humanities (GER) 3 Semester Hours
  Elective 3 Semester Hours

Total: 128 Min

Computer Science, BS

The minimum number of hours required for a B.S. degree with a major in Computer Science is 128, distributed as shown below. AP credit may be used to replace certain required courses. See details in the section Instructional and Testing Services.
General Education Requirements (Areas I-V)

Computer Science students must meet all requirements specified by the College of Science for the B.S. degree, with the following qualifications:

Area III:

The two-course laboratory science sequence must be selected from one of the following:

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology

Area V:

The additional science or engineering course must be a 4-hour laboratory science course chosen from AST, ATS, BYS, CH, ES, PH, but not to include

- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory

The computer science course must be

- CS 102 - Introduction to C Programming
  or
- CS 103 - Introduction to Programming using Java

Computer Science Major

CS Core 34 hrs

- CS 105 - Computer Science Seminar ? Ethics and Professionalism
- CS 121 - Computer Science I
CS Electives 12 hrs

6 hours at 300-level or above, 6 hours at 400-level or above

Mathematics Minor 21 hrs

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 244 - Introduction to Linear Algebra
- MA 385 - Introduction to Probability and Statistics

and one of

- MA 330 - Foundations of Mathematics
- MA 415 - Introduction to Numerical Methods
- MA 442 - Algebraic Structures with Applications
- or
- MA 487 - Introduction to Mathematical Statistics

Technical Elective 3 hrs

Any 300-level (or above) course from the College of Science, or from a list available in the CS Department

The computer science major requires the CS Core

(CH 105, 121, 214, 221, 308, 309, 317, 321, 413, 424, 490, 499 - 34 hrs), CS electives (6 hours at 300-level or above, 6 hours at 12 hrs 400-level or above), mathematics minor (MA 171, 172, 201, 244, 385, and one of 330, 415, 442, or 487 - 21 hrs, and a technical elective (any 300-level or above course from the College of Science, or from a list available in the CS Department - 3 hrs)

Model Plan for a major in Computer Science with a Mathematics minor

First Year
Fall: 3 Hours

- CS 102 - Introduction to C Programming
- CS 105 - Computer Science Seminar: Ethics and Professionalism
- MA 171 - Calculus A
  Hist/Soc Sci 3 Semester Hours
- EH 101 - Freshman Composition

Spring: 16 Hours

- CS 121 - Computer Science I
  LIT/FA
- MA 172 - Calculus B
  Hist/Soc Sci 3 Semester Hours
- EH 102 - Freshman Composition

Second Year

Fall: 17 Hours

- CS 214 - Introduction to Discrete Structures
- CS 221 - Computer Science II: Data Structures
- MA 201 - Calculus C
  Lab Science 4 Semester Hours
  LIT/FA 3 Semester Hours

Spring: 16 Hours

- CS 309 - Switching Theory
- CS 321 - Introduction to Object-Oriented Programming in Java
- MA 244 - Introduction to Linear Algebra
  Lab Science 4 Semester Hours
  LIT/FA 3 Semester Hours
Third Year

Fall: 16 Hours

- CS 308 - Computer Organization and Assembly Language Programming
  CS Elective 3 Semester Hours
- MA 385 - Introduction to Probability and Statistics
  Lab Science 4 Semester Hours
- EH 301 - Technical Writing

Spring: 16 Hours

- CS 317 - Introduction to Design and Analysis of Algorithms
- CS 413 - Introduction to Digital Computer Design
  MA Elective 3 Semester Hours
  Hist/Soc Sci 3 Semester Hours
  Lit/FA 3 Semester Hours
  General Elective 1 Semester Hour

Fourth Year

Fall: 18 Hours

- CS 490 - Introduction to Operating Systems
- CS 424 - Programming Languages
  CS Elective 3 Semester Hours
  Technical Elective 3 Semester Hours
  Hist/Soc Sci 3 Semester Hours
  General Elective 3 Semester Hours

Spring: 15 Hours
Earth System Sciences, BS

General Education Requirements (GER) for the proposed ESS program will be as stated in the current university catalog.

Area I – English Composition 6 Hours

English Composition:

- EH 101 - Freshman Composition
- EH 102 - Freshman Composition

Area II – Humanities and Fine Arts 12 Hours

Fine Arts:

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- ARS 160 - Introduction to Drawing
- MU 100 - Introduction to Music Literature
- CM 122 - Theater Appreciation

Literature*:

- EH 205 - British Literature I
- EH 206 - British Literature II
- EH 241 - World Literature II
  EH 206
- EH 240 - World Literature I
  EH 240
  EH 241
  EH 205
- EH 230 - American Literature I
  EH 240
  EH 230

**Humanities and Fine Arts:**

- CM 113 - Introduction to Rhetorical Communication
- PHL 202 - Introduction to Ethics
  (required)

**Note(s):**

* Students must complete a two-course sequence in literature or history

**Area III – Natural Science and Mathematics 11-12 Hours**

**Mathematics:**

- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

**Natural Science:**

- PH 101 - General Physics I
- PH 102 - General Physics II
or

• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I

• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II

Area IV – History, Social and Behavioral Sciences 12 Hours

History*:

• HY 101 - Western Civilization, Part I
• HY 102 - Western Civilization, Part II

• HY 103 - World History to 1500
• HY 104 - World History from 1500

or

• HY 221 - The United States to 1877
• HY 222 - The United States Since 1877

Note(s):

*Students must complete a two-course sequence in literature or history

Area V – Preprofessional and elective courses 14 Hours

Science or Engineering course outside major:

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

or
• CH 101 - Introduction to Chemistry
• CH 105 - Introductory Chemistry Laboratory

• CH 201 - Elementary Organic Chemistry
• CH 205 - Elementary Organic Chemistry Laboratory

Computer Science:

• CS 102 - Introduction to C Programming

Technical Writing:

• EH 301 - Technical Writing

Core Studies

A major in Earth System Science requires a minimum of 38 semester hours of coursework and includes the following core courses (23 hours).

• ESS 111 - Climate and Global Change
• ESS 102 - Physical Geology
• ESS 305 - Hydrology
• ESS 321 - Pollution Problems
• ESS 370 - Introduction to Remote Sensing
• ESS 499 - Undergraduate Research Capstone
• ST 281 - Elements of Statistical Analysis

Note(s):

• BYS 119 - Principles of Biology
• PHL 202 - Introduction to Ethics
• EH 301 - Technical Writing are also required for all majors and can be used to satisfy General Education Requirements.

Specialty Tracks
In addition, a major must select at least 15 credits in a single specialty track from the list below. A student may create their own specialized (or Cognate) specialty track by selecting a linked set of 15 or more ESS credits as approved by their advisor and the ATS Department Chair.

1) Atmospheric Science

The requirements of the American Meteorological Society for a B.S. degree include:

1. 12 semester hours of lecture and laboratory courses

   with calculus as a prerequisite or corequisite, in atmospheric thermodynamics and dynamic, synoptic, and mesoscale meteorology that collectively provide a broad treatment of atmospheric processes at all scales

   - ESS 441 - Atmospheric Thermodynamics and Cloud Physics
   - ESS 451 - Atmospheric Fluid Dynamics I
   - ESS 452 - Synoptic Meteorology
   - ESS 454 - Forecasting Mesoscale Processes

2. 3 semester hours of atmospheric physics, with emphasis on cloud/precipitation physics and solar and terrestrial radiation

   - ESS 461 - Atmospheric Radiation I

3. 3 semester hours of atmospheric measurements, instrumentation, or remote sensing, including both lecture and laboratory components

   - ESS 370 - Introduction to Remote Sensing

4. at least 3 semester hours in applied/specialty meteorology topics

   - ESS 321 - Pollution Problems
   - ESS 303 - Classification and Physical Causes of Climates
   - ESS 305 - Hydrology

5. up to 3 semester hours of a synthesizing experience such as an undergraduate research project
• ESS 499 - Undergraduate Research Capstone

6. a minimum of a three-semester sequence of calculus that includes vector calculus and ordinary differential equations

• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations

7. a one-year sequence in physics lecture and laboratory courses, with calculus as a prerequisite or corequisite

• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II
• PH 113 - General Physics with Calculus III
• PH 116 - General Physics Laboratory III

8. at least one course (3 semester hours) in chemistry appropriate for physical science majors

• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• ESS 420 - Introduction to Atmospheric Chemistry and Air Pollution

9. a course with a multi-disciplinary and/or integrative approach to an environmental topic, such as a course on climate change

• ESS 111 - Climate and Global Change
10. an appropriate level of coursework or demonstrated competency in the following areas:

computer science or information technology appropriate for physical science majors, including a course that teaches scientific, structured programming skills

- CS 102 - Introduction to C Programming
- ESS 409 - Applications of Computers in Meteorology
- ST 281 - Elements of Statistical Analysis
- EH 301 - Technical Writing
- CM 113 - Introduction to Rhetorical Communication

Additional Information

As in any science curriculum, students should have the opportunity and be encouraged to supplement minimum requirements with additional course work in the major and supporting areas. This supplemental course work may include courses designed to broaden the student's perspective on the earth as a system, the environmental sciences, science administration, ethics, history of science, and policy making, as well as additional courses in the basic sciences, mathematics, statistics, and engineering. Also, students should be strongly urged to supplement their atmospheric science course work with additional courses or other activities designed to develop effective communication skills, both written and oral.

The atmospheric science track prepares students for graduate school and a research career in the atmospheric sciences/meteorology.

Course Work

- ESS 303 - Classification and Physical Causes of Climates
- ESS 331 - Global Climate Change and Infectious Disease
- ATS 401 - Survey of Atmospheric Science
- ATS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ATS 441 - Atmospheric Thermodynamics and Cloud Physics
- ATS 451 - Atmospheric Fluid Dynamics I
- ATS 452 - Synoptic Meteorology
- ATS 454 - Forecasting Mesoscale Processes
- ATS 461 - Atmospheric Radiation I
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- PH 113 - General Physics with Calculus III
• PH 116 - General Physics Laboratory III
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations
• CS 102 - Introduction to C Programming are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Mathematics.

Typical Four-Year Curriculum Atmospheric Science Specialty

Year One

Fall

• EH 101 - Freshman Composition
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• MA 171 - Calculus A
• ESS 111 - Climate and Global Change

15 Semester Hours

Spring

• EH 102 - Freshman Composition
• CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

15 Semester Hours

Year Two

Fall

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- MA 201 - Calculus C
- CS 102 - Introduction to C Programming

17 Semester Hours

Spring

- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- EH 206 - British Literature II
- HY 102 - Western Civilization, Part II
- MA 238 - Applied Differential Equations
- ESS 102 - Physical Geology

17 Semester Hours

Year Three
Fall

- BYS 119 - Principles of Biology
- ESS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ESS 401 - Survey of Atmospheric Science
- ESS 321 - Pollution Problems
- PHL 202 - Introduction to Ethics

16 Semester Hours

Spring

- ESS 305 - Hydrology
- ESS 370 - Introduction to Remote Sensing
- EH 301 - Technical Writing
- ST 281 - Elements of Statistical Analysis
  GER (Arts) 3 Semester Hours

15 Semester Hours

Year Four

Fall

- ESS 303 - Classification and Physical Causes of Climates
- ESS 441 - Atmospheric Thermodynamics and Cloud Physics
- ESS 451 - Atmospheric Fluid Dynamics I
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

18 Semester Hours
Spring

- ESS 499 - Undergraduate Research Capstone
  Elective 3 Semester Hours
- GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

15 Semester Hours

Grand Total = 128

2) Atmospheric Chemistry

The atmospheric chemistry track prepares students for graduate school and a research career in atmospheric chemistry.

At least 15 hours of coursework from the following:

- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 301 - Elementary Biochemistry
- CH 331 - Organic Chemistry I
- ATS 401 - Survey of Atmospheric Science
- ATS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ATS 441 - Atmospheric Thermodynamics and Cloud Physics

Additionally

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I

• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations
• CS 102 - Introduction to C Programming are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Mathematics

Typical Four-Year Curriculum Atmospheric Chemistry Specialty

Year One

Fall

• EH 101 - Freshman Composition
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• MA 171 - Calculus A
• ESS 111 - Climate and Global Change

15 Semester Hours

Spring

• EH 102 - Freshman Composition
• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

15 Semester Hours

Year Two

Fall

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- EH 205 - British Literature I
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- MA 201 - Calculus C
- HY 101 - Western Civilization, Part I

18 Semester Hours

Spring

- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- EH 206 - British Literature II
- CH 301 - Elementary Biochemistry
- MA 238 - Applied Differential Equations
- HY 102 - Western Civilization, Part II

16 Semester Hours

Year Three
Fall

- BYS 119 - Principles of Biology
- ESS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ESS 401 - Survey of Atmospheric Science
- ESS 321 - Pollution Problems
- CS 102 - Introduction to C Programming

16 Semester Hours

Spring

- ESS 370 - Introduction to Remote Sensing
- ESS 305 - Hydrology
  Elective 3 Semester Hours
- ST 281 - Elements of Statistical Analysis
  GER (Arts) 3 Semester Hours

15 Semester Hours

Year Four

Fall

- ESS 441 - Atmospheric Thermodynamics and Cloud Physics
  ESS Specialty 3 Semester Hours
  ESS Specialty 3 Semester Hours
  GER (SS) 3 Semester Hours
- PHL 202 - Introduction to Ethics
- CM 113 - Introduction to Rhetorical Communication

18 Semester Hours
Spring

- ESS 499 - Undergraduate Research Capstone
- EH 301 - Technical Writing
  GER (SS) 3 Semester Hours
- ESS 102 - Physical Geology
  Elective 3 Semester Hours

16 Semester Hours

Grand Total = 129

3) Geophysical Information Systems (GIS) and Satellite Remote Sensing

- ESS 411 - Introduction to Geographical Information Systems
- ESS 413 - Geographical Information Systems and Remote Sensing
- ESS 414 - Cross-Disciplinary Introduction to GIS

Additionally

- PH 101 - General Physics I
- PH 102 - General Physics II

or

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II

• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• CS 102 - Introduction to C Programming
• CS 121 - Computer Science I
• CS 221 - Computer Science II: Data Structures are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Computer Science or Cognate

Typical Four-Year Curriculum GIS and Remote Sensing Specialty

Year One

Fall

• EH 101 - Freshman Composition
• CH 121 - General Chemistry I
• CH 125 - General Chemistry Laboratory I
• MA 171 - Calculus A
• ESS 111 - Climate and Global Change

15 Semester Hours

Spring

• EH 102 - Freshman Composition
• CH 123 - General Chemistry II
• CH 126 - General Chemistry Laboratory II
• MA 172 - Calculus B
• ESS 102 - Physical Geology
15 Semester Hours

Year Two

Fall

- PH 101 - General Physics I
  or
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- MA 201 - Calculus C
- CS 102 - Introduction to C Programming

17 Semester Hours

Spring

- PH 102 - General Physics II
  or
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- CS 121 - Computer Science I
- EH 206 - British Literature II
- HY 102 - Western Civilization, Part II
  Elective 3 Semester Hours

16 Semester Hours

Year Three
Fall

- BYS 119 - Principles of Biology
- CS 221 - Computer Science II: Data Structures
- ESS 321 - Pollution Problems
- PHL 202 - Introduction to Ethics
- ESS 411 - Introduction to Geographical Information Systems

16 Semester Hours

Spring

- ESS 305 - Hydrology
- ESS 370 - Introduction to Remote Sensing
- ST 281 - Elements of Statistical Analysis
- ESS 413 - Geographical Information Systems and Remote Sensing
  GER (Arts) 3 Semester Hours

16 Semester Hours

Year Four

Fall

- ESS 414 - Cross-Disciplinary Introduction to GIS
  ESS Specialty 3 Semester Hours
  ESS Specialty 3 Semester Hours
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

18 Semester Hours
Spring

- ESS 499 - Undergraduate Research Capstone
- EH 301 - Technical Writing
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours

15 Semester Hours

Grand Total = 128

4) Earth Ecosystems

At least 15 hours of coursework from the following:

- ESS 312 - Principles of Ecology
- ESS 331 - Global Climate Change and Infectious Disease
- ESS 414 - Cross-Disciplinary Introduction to GIS
  or
- ESS 441 - Atmospheric Thermodynamics and Cloud Physics
- BYS 219 - Genetics and Evolution
- BYS 321 - General Microbiology I
- BYS 364 - Biogeography
- BYS 464 - Evolution
- MS 202 - Marine Biology

Additionally

- PH 101 - General Physics I
- PH 102 - General Physics II
  or
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II

- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

- BYS 120 - Organismal Biology

- CS 102 - Introduction to C Programming are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Chemistry, Biology or Cognate

Typical Four-Year Curriculum Earth Ecosystems Specialty

Year One

Fall

EH 111 3 Semester Hours

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

ESS 101 4 Semester Hours

15 Semester Hours
Spring

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- ESS 102 - Physical Geology
  Elective 4 Semester Hours

15 Semester Hours

Year Two

Fall

- PH 101 - General Physics I
  or
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- BYS 119 - Principles of Biology
  Elective 3 Semester Hours

17 Semester Hours

Spring

- PH 102 - General Physics II
  or
- PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II
• EH 206 - British Literature II
• HY 102 - Western Civilization, Part II
• BYS 120 - Organismal Biology
  Elective 3 Semester Hours

17 Semester Hours

Year Three

Fall

Elective 4 Semester Hours
• ESS 321 - Pollution Problems
  ESS Specialty 3 Semester Hours
• PHL 202 - Introduction to Ethics
• CS 102 - Introduction to C Programming

16 Semester Hours

Spring

Elective 4 Semester Hours
• ESS 305 - Hydrology
• ESS 370 - Introduction to Remote Sensing
  AKS 300 4 Semester Hours
  GER (Arts) 3 Semester Hours

17 Semester Hours

Year Four
Fall

ESS Specialty 3
ESS Specialty 3
ESS Specialty 3
ESS Specialty 3
GER (SS) 3
Elective 3
Elective 2

17 Semester Hours

Spring

ESS Specialty 3 Semester Hours
• ESS 499 - Undergraduate Research Capstone
• EH 301 - Technical Writing
GER (SS) 3 Semester Hours
Elective 3 Semester Hours

15 Semester Hours

Grand Total = 129

5) Hydrology

• CE 271 - Statics
• MAE 341 - Thermodynamics I
• CE 449 - Introduction to Environmental Engineering
• CE 457 - Hydrology
Additionally

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 238 - Applied Differential Equations
- CPE 112 - Introduction to Computer Programming in Engineering are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Mathematics

Typical Four-Year Curriculum Hydrology Specialty

Year One

Fall

- EH 101 - Freshman Composition
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- MA 171 - Calculus A
- ESS 111 - Climate and Global Change
15 Semester Hours

Spring

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

15 Semester Hours

Year Two

Fall

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- MA 201 - Calculus C
- CE 271 - Statics

17 Semester Hours

Spring

- ESL 102 - Listening/Speaking III
- EH 206 - British Literature II
- HY 102 - Western Civilization, Part II
- MA 238 - Applied Differential Equations
- CS 102 - Introduction to C Programming

16 Semester Hours

Year Three

Fall

- BYS 119 - Principles of Biology
- MAE 341 - Thermodynamics I
- ESS 321 - Pollution Problems
  Elective 3 Semester Hours
- CPE 112 - Introduction to Computer Programming in Engineering

16 Semester Hours

Spring

- ESS 370 - Introduction to Remote Sensing
- ST 281 - Elements of Statistical Analysis

16 Semester Hours

Year Four

Fall

- CE 457 - Hydrology
• CE 449 - Introduction to Environmental Engineering
• PHL 202 - Introduction to Ethics
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

18 Semester Hours

Spring

• ESS 499 - Undergraduate Research Capstone
• EH 301 - Technical Writing
• CE 441 - Hydraulic Engineering Design
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours

15 Semester Hours

Grand Total = 128

6) Earth Science Secondary Education

• ESS 210 - Collapse of Civilizations
• ESS 303 - Classification and Physical Causes of Climates
• ESS 312 - Principles of Ecology
• ESS 331 - Global Climate Change and Infectious Disease
• ESS 410 - Operational Weather Forecasting
• AST 106 - Exploring the Cosmos I
• PH 110 - Frontiers in Science
• GY 105 - World Regional Geography
• GY 110 - Principles of Human Geography

Note(s):

MS 425 will be created to replace MS 525.
Additionally

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- CS 102 - Introduction to C Programming are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Education

Typical Four-Year+ Curriculum Earth Science Education Specialty

Year One

Fall

- EH 101 - Freshman Composition
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- MA 171 - Calculus A
- ESS 111 - Climate and Global Change

15 Semester Hours
Spring

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I

15 Semester Hours

Year Two

Fall

- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- MA 201 - Calculus C
  ESS Specialty 3 Semester Hours

17 Semester Hours

Spring

- ESS 102 - Physical Geology
- EH 206 - British Literature II
  ESS Specialty 3 Semester Hours
• HY 102 - Western Civilization, Part II
• CS 102 - Introduction to C Programming

16 Semester Hours

Year Three

Fall

• BYS 119 - Principles of Biology
• ESS 321 - Pollution Problems
• ED 301 - Introduction to Education Practicum
• ED 305 - Foundations of Education in the United States
• ED 350 - Technology in the Classroom

17 Semester Hours

Spring

• ESS 370 - Introduction to Remote Sensing
• ST 281 - Elements of Statistical Analysis
• ED 308 - Educational Psychology
• ED 309 - Classroom and Behavior Management
• EDC 301 - Teaching the Exceptional Child (Survey Part I)

15 Semester Hours

Summer

3 Semester Hours
Year Four

Fall

ESS Specialty 3 Semester Hours
ESS Specialty 3 Semester Hours
• CM 113 - Introduction to Rhetorical Communication
• PHL 202 - Introduction to Ethics
GER (SS) 3 Semester Hours

18 Semester Hours

Spring

• ESS 499 - Undergraduate Research Capstone
  ESS Specialty 3 Semester Hours
• ESS 305 - Hydrology
  GER (SS) 3 Semester Hours

16 Semester Hours

Year Five

Fall

10 Semester Hours

Grand Total = 142
7) Human Dimensions and Societal Impacts

At least 15 credits from the following:

- GY 110 - Principles of Human Geography
- ESS 210 - Collapse of Civilizations
- ESS 331 - Global Climate Change and Infectious Disease
- ESS 410 - Operational Weather Forecasting
- ESS 441 - Atmospheric Thermodynamics and Cloud Physics
- SOC 480 - Sociology of Science and Technology (Re-listed)
- PSC 260 - Introduction to International Relations

Additionally

- PH 101 - General Physics I
- PH 102 - General Physics II
- MA 120 - Calculus with Applications

or

- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II

- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II
  with
- MA 171 - Calculus A

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I

- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II

- SOC 100 - Introduction to Sociology
- SOC 105 - Introduction to Cultural Anthropology
- PSC 101 - American Government
- CS 102 - Introduction to C Programming

are required ancillary courses, some of which may satisfy General Education Requirements.

Note(s):

Suggested Minor: Political Science or other Social Science
Typical Four-Year Curriculum Human Dimensions and Societal Impacts Specialty

Year One

Fall

- EH 101 - Freshman Composition
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- ESS 111 - Climate and Global Change
- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A

15 Semester Hours

Spring

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- ESS 102 - Physical Geology
- BYS 119 - Principles of Biology

15 Semester Hours

Year Two

Fall
• PH 101 - General Physics I
• EH 205 - British Literature I
• HY 101 - Western Civilization, Part I
• SOC 100 - Introduction to Sociology
• PSC 101 - American Government

16 Semester Hours

Spring

• PH 102 - General Physics II
• EH 206 - British Literature II
• HY 102 - Western Civilization, Part II
• SOC 105 - Introduction to Cultural Anthropology
  ESS Specialty 3 Semester Hours

15 Semester Hours

Year Three

Fall

Elective 3 Semester Hours
• ESS 321 - Pollution Problems
  ESS Specialty 3 Semester Hours
  GER (Arts) 3 Semester Hours
• CS 102 - Introduction to C Programming

15 Semester Hours

Spring
ESS Specialty 4 Semester Hours

- ESS 305 - Hydrology
- ESS 370 - Introduction to Remote Sensing
- ST 281 - Elements of Statistical Analysis
- PHL 202 - Introduction to Ethics

16 Semester Hours

Year Four

Fall

- ESS Specialty 3
- ESS Specialty 3
- GER (SS) 3
- Elective 3
- Elective 3
- Elective 3

18 Semester Hours

Spring

- ESS 499 - Undergraduate Research Capstone
- EH 301 - Technical Writing
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

17 Semester Hours
A major in Earth System Science requires a minimum of 38 semester hours of coursework and includes the following core courses (23 hours):

- ESS 111 - Climate and Global Change
- ESS 305 - Hydrology
- ESS 321 - Pollution Problems
- ESS 370 - Introduction to Remote Sensing
- ESS 499 - Undergraduate Research Capstone
- ST 281 - Elements of Statistical Analysis

Additional Information

BYS 119 (Principles of Biology), PHL 202 (Introduction to Ethics) and EH 301 (Technical Writing) are also required for all majors and can be used to satisfy General Education Requirements. In addition, a major must select at least 15 credits in a single specialty track: Atmospheric Science, Atmospheric Chemistry, Geophysical Information Systems (GIS) and Satellite Remote Sensing, Earth Ecosystems, Hydrology, Earth Science Secondary Education, Human Dimensions and Societal Impacts

Model plan for an ESS major using Atmospheric Science Specialty. Other minors and major concentrations are possible. The four year plans should be understood as examples of the many four year plans that are possible.

First Year

Fall: 15 Hours

- EH 101 - Freshman Composition
- CH 121 - General Chemistry I
  and
- CH 125 - General Chemistry Laboratory I
- MA 171 - Calculus A
- ESS 111 - Climate and Global Change
Spring: 15 Hours

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
  and
- CH 126 - General Chemistry Laboratory II
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
  and
- PH 114 - General Physics Laboratory I

Second Year

Fall: 17 Hours

- PH 112 - General Physics with Calculus II
  and
- PH 115 - General Physics Laboratory II
- EH 205 - British Literature I
- HY 101 - Western Civilization, Part I
- MA 201 - Calculus C
- CS 102 - Introduction to C Programming

Spring: 17 Hours

- PH 113 - General Physics with Calculus III
  and
- PH 116 - General Physics Laboratory III
- EH 206 - British Literature II
- HY 102 - Western Civilization, Part II
- MA 238 - Applied Differential Equations
- ESS 102 - Physical Geology
Third Year

Fall: 16 Hours

- BYS 119 - Principles of Biology
- ESS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ESS 401 - Survey of Atmospheric Science
- EH 301 - Technical Writing
- PHL 202 - Introduction to Ethics

Spring: 15 Hours

- ESS 370 - Introduction to Remote Sensing
- ESS 305 - Hydrology
  ESS370 Introduction to Remote Sensing 3 Semester Hours
- ST 281 - Elements of Statistical Analysis
  GER (Arts) 3 Semester Hours

Fourth Year

Fall: 18 Hours

- ESS 303 - Classification and Physical Causes of Climates
- ESS 441 - Atmospheric Thermodynamics and Cloud Physics
  ESS Specialty 3 Semester Hours
  GER (SS) 3 Semester Hours
  Elective 3 Semester Hours
  Elective 3 Semester Hours

Spring: 15 Hours
Mathematics, BS or BA

All majors in mathematics must include

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 244 - Introduction to Linear Algebra
- MA 330 - Foundations of Mathematics
- MA 385 - Introduction to Probability and Statistics (basic core)

Note(s):

Only MA courses numbered 171 or above may be included in a mathematics major, and an overall average of C is required for all UAHuntsville MA or ST courses that are included in a mathematics major. Information on other MA course requirements is given in Curricula I, II, and III below. Students who think that substitutions in those curricula can produce a program better suited to their needs should consult their faculty advisor about the feasibility of such substitutions. All MA electives must be approved by the student’s faculty advisor prior to registering for the courses. All majors in mathematics must satisfy the appropriate (B.S. or B.A.) General Education Requirements (GER).

Majors in mathematics must also include

- CS 121 - Computer Science I
- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II
- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II

Additonal Information

Students majoring in other academic areas who wish to obtain a more solid background in mathematics than is provided by a minor may pursue a second major in mathematics rather than a minor in mathematics. Curriculum III below is specifically designed for such students.
Curriculum I

This curriculum leads to a B.A. or B.S. degree with a major in mathematics, and is appropriate for students planning careers in industry or graduate study in mathematics.

Mathematics 42 Semester Hours

MA Basic core plus 42 Semester Hours

- MA 238 - Applied Differential Equations
- MA 442 - Algebraic Structures with Applications
- MA 452 - Introduction to Real Analysis
- MA 465 - Introduction to Mathematical Modeling

MA electives (three courses at the 400 level)

Computer Science (GER Area V) 6 Semester Hours

- CS 102 - Introduction to C Programming
- CS 121 - Computer Science I

Physics (GER Area III) 8 Semester Hours

- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II
- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II

Minor 21-24 Semester Hours

Note(s):

The MA electives must be pre-approved by the student’s mathematics advisor. The GER for the B.A. degree are listed in the College of Liberal Arts section. The GER for the B.S. degree are listed in the College of Science section.
Curriculum II

This curriculum leads to a B.A. or B.S. degree with a major in mathematics, and meets the requirements for an Alabama Class B Middle/Junior High School Teacher’s Certificate or an Alabama Class B High School Teacher’s Certificate.

Mathematics 39 Semester Hours

MA Basic core plus

- MA 433 - Introduction to Geometry
- MA 442 - Algebraic Structures with Applications
- MA 452 - Introduction to Real Analysis
- MA 487 - Introduction to Mathematical Statistics
- ST 487 - Introduction to Mathematical Statistics

MA elective (3 hrs at the 400 level; 6 hrs. total)

Computer Science (GER Area V) 6 Semester Hours

- CS 102 - Introduction to C Programming
- CS 121 - Computer Science I

Physics (GER Area III) 8 Semester Hours

- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II
- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II

Education Courses 33 Semester Hours

Note(s):

The MA elective must be pre-approved by the student’s mathematics advisor.
See the Education Department section of the catalog for information on education courses and general education requirements.

Students pursuing this curriculum should consult with the Education Department early in their programs.

Education students are required to pass an exit examination in their teaching fields in order to graduate and be recommended for certification.

Students who choose this curriculum may not be adequately prepared for graduate study in mathematics.

This curriculum may require more than the minimum 128 semester hours.

**Curriculum III**

This curriculum is restricted to students who are pursuing a double major in mathematics and another discipline in the College of Science, or a major in mathematics and a second major in a discipline in the College of Engineering. This curriculum prepares students for careers in industry.

**Mathematics 39 Semester Hours**

MA Basic core plus

- **MA 238** - Applied Differential Equations

  One approved analysis course, such as
  - **MA 415** - Introduction to Numerical Methods
  - **MA 452** - Introduction to Real Analysis
  - **MA 453** - Introduction to Complex Analysis
  or
  - **MA 460** - Introduction to Fourier Analysis

  One approved algebra course, such as
  - **MA 442** - Algebraic Structures with Applications
  - **MA 450** - Combinatorial Enumeration
  or
  - **MA 458** - Applied Linear Algebra

  MA or ST electives (three courses at the 400 level)

**Computer Science (GER Area V) 6 Semester Hours**

- **CS 102** - Introduction to C Programming
- **CS 121** - Computer Science I
Physics (GER Area III) 8 Semester Hours

- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II
- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II

Second Major 36-45 Semester Hours

Note(s):

The MA electives must be pre-approved by the student’s mathematics advisor.

If a student elects to take neither MA 452 nor MA 442, then an additional 400 level course is required.

If the student’s other major is not in the College of Science, then normally the General Education Requirements of the College of Science must be satisfied, as well as the GER of the other college. Under appropriate circumstances, some substitutions in the College of Science GER may be allowed upon petition by the student. For more information, contact the Department of Mathematical Sciences.

This curriculum will usually require more than the minimum 128 semester hours.

Additional Information

Curriculum I leads to a B.A. or B.S. degree with a major in mathematics, and is appropriate for students planning careers in industry or graduate study in mathematics. Curriculum II leads to a B.A. or B.S. degree with a major in mathematics, and meets the requirements for an Alabama Class B Middle/Junior High School Teacher’s Certificate or an Alabama Class B High School Teacher’s Certificate. Curriculum III is restricted to students who are pursuing a double major in mathematics and another discipline.

Model plan for Mathematics major. Several minors and major concentrations are possible. The four year plans should be understood as examples of the many four year plans that are possible.

First Year

Fall: 16 Hours

- MA 171 - Calculus A
- EH 101 - Freshman Composition
• CS 102 - Introduction to C Programming
  GER 3 Semester Hours
  GER 3 Semester Hours

Spring: 14 Hours

• MA 172 - Calculus B
• EH 102 - Freshman Composition
• PH 111 - General Physics with Calculus I
  and
• PH 114 - General Physics Laboratory I
• HY 101 - Western Civilization, Part I

Second Year

Fall: 18 Hours

• MA 201 - Calculus C
• MA 244 - Introduction to Linear Algebra
• PH 112 - General Physics with Calculus II
  and
• PH 115 - General Physics Laboratory II
• EH 205 - British Literature I
• CS 121 - Computer Science I

Spring: 16 Hours

• MA 238 - Applied Differential Equations
• MA 330 - Foundations of Mathematics
• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I
Minor 3 Semester Hours
Minor 3 Semester Hours

Third Year

Fall: 16 Hours

- MA 442 - Algebraic Structures with Applications
- MA 465 - Introduction to Mathematical Modeling

GER 3 Semester Hours
Minor 7 Semester Hours

Spring: 16 Hours

- MA 452 - Introduction to Real Analysis
- MA 3xx or 4xx 3 Semester Hours
- Minor 7 Semester Hours
- Elective or GER 3 Semester Hours

Fourth Year

Fall: 17 Hours

- MA 4xx 3 Semester Hours
- MA 4xx 3 Semester Hours
- Minor 3 Semester Hours
- Elective or GER 8 Semester Hours

Physics, BS

A student majoring in physics takes courses from four main groups:

1. General Education Requirements (GERs), typically 51 credit hours;
2. Required or core physics courses, 36-37 credit hours;
3. Required math courses (outside of the GERs), 14 credit hours; and
4. Minor or cognate courses, 21 credit hour minimum. Credit hours must total 128 or greater, and there must be at least 39 credit hours in courses numbered 300 or above.

1. General Education Requirements (GERs)

The GERs in the College of Science ensure that all science students receive a well-rounded college education. Physics majors must take specifically:

A.

- CH 121 - General Chemistry I
- CH 123 - General Chemistry II
- CH 125 - General Chemistry Laboratory I
- CH 126 - General Chemistry Laboratory II for the “Natural Science” sequence in Area III if the student’s minor is not chemistry; and

B.

- CS 102 - Introduction to C Programming
  or
- CS 121 - Computer Science I
  or
- CPE 112 - Introduction to Computer Programming in Engineering for the “Computer Science” course in Area V.

2. Required or core physics courses

All physics majors must take the following core courses:

- PH 110 - Frontiers in Science
- PH 111 - General Physics with Calculus I
- PH 112 - General Physics with Calculus II
- PH 113 - General Physics with Calculus III
- PH 114 - General Physics Laboratory I
- PH 115 - General Physics Laboratory II
- PH 116 - General Physics Laboratory III
- PH 251 - Special Relativity
- PH 301 - Intermediate Mechanics
- PH 305 - Mathematical Methods in Physics
- PH 351 - Introduction to Modern Physics
- PH 499 - Physics Practicum and at least 8 credit hours in PH, OPT, or AST courses numbered 300 or above.
Note(s):

The introductory 100-level courses provide the basic foundations of physics and are necessary prerequisites for any upper-level physics course.

3. Required math courses

Advanced physics courses require a thorough preparation in calculus, differential equations, and linear algebra. Hence, physics majors are required to take

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 238 - Applied Differential Equations
- MA 244 - Introduction to Linear Algebra

Note(s):

Since MA 171 (Calculus A) is counted in Area III of the GERs, the remaining required math courses constitute 14 credit hours of study. If desired, MA 238 or MA 244 could be counted in Area V of the GERs under “One Science or Engineering Course outside of major and minor” if the student’s minor is not mathematics, thus opening up an additional 3 credit hours for free electives.

4. Minor or cognate courses

Since a rigorous mathematics preparation is already part of the physics major curriculum, a student majoring in physics is able to minor in any other science discipline (A – E below) in the minimum of 128 credit hours, and still have free electives!

A. Atmospheric Science.

Atmospheric Science is a natural, exciting, and timely discipline of physics, making extensive use of fluid mechanics, thermodynamics, electrodynamics, and chemistry. Required courses:

- ES 111
- ES 112
- ATS 401 - Survey of Atmospheric Science
  ATS 4xx (3 credit hours)
  and ATS 3xx or 4xx (9 credit hours), for a total of 23 credit hours.

Note(s):

All ancillary and suggested courses (except suggested course ST 281) in this minor are already satisfied for a physics major.
B. Biological Science.

A physics major with a biological science minor is an outstanding preparation for medical school, as well as further graduate study in medical/radiological physics or biophysics. Required courses:

- BYS 119 - Principles of Biology
- BYS 120 - Organismal Biology
- BYS 219 - Genetics and Evolution
  and BYS 3xx or 4xx (9 credit hours), for a total of 21 credit hours.

C. Chemistry.

Quantum mechanics courses (PH 451 and PH 452) are highly recommended electives for this minor, allowing the student to understand the complexities of chemical behavior at their most fundamental level. Required courses:

- CH 121 - General Chemistry I
- CH 123 - General Chemistry II
- CH 125 - General Chemistry Laboratory I
- CH 126 - General Chemistry Laboratory II
- CH 331 - Organic Chemistry I
- CH 332 - Organic Chemistry II
- CH 335 - Organic Chemistry Laboratory I
- CH 341 - Physical Chemistry I
- CH 342 - Physical Chemistry II for a total of 21 credit hours.

D. Computer Science.

Simulation and numerical computation are becoming ever more critical for cutting-edge research in all fields, and this minor combines the crucial skills from both disciplines to achieve a solid foundation for future scientific computing or programming. Required courses:

- CS 105 - Computer Science Seminar - Ethics and Professionalism
- CS 121 - Computer Science I
- CS 214 - Introduction to Discrete Structures
- CS 221 - Computer Science II: Data Structures
- CS 317 - Introduction to Design and Analysis of Algorithms
- CS 321 - Introduction to Object-Oriented Programming in Java
  CS 3xx or 4xx (3 credit hours), and CS 4xx (3 credit hours), for a total of 22 credit hours.

E. Mathematics.

The mathematics minor permits up to 24 credit hours to be used as electives, which in turn allows the student to specialize in a particular area in physics or engineering. Required courses, in addition to those already listed in item 3 above:
MA 3xx or 4xx (6 credit hours).

F. Secondary Education (with Class B Certification).

The Department of Physics also participates with the Department of Education in the support and training of secondary school teachers. Students that wish to earn a B.S. degree in physics with certification from the Alabama State Department of Education can do so with an extra 12 credit hours. High school physics teachers with a physics degree are in great demand, and we strongly encourage you to consider this rewarding career. The total number of credit hours for a secondary education minor with certification is 140. Classwork is completed in four years, and the Fall semester of the fifth year is devoted to student teaching (ED 497). Note that no additional courses beyond this curriculum are required for certification. Required courses:

- ED 301 - Introduction to Education Practicum
- ED 305 - Foundations of Education in the United States
- ED 308 - Educational Psychology
- ED 309 - Classroom and Behavior Management
- EDC 301 - Teaching the Exceptional Child (Survey Part I)
- EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students
- ED 350 - Technology in the Classroom

Note(s):

PY 101 and PY 201 are also required, but are part of the GERs.

G. Other.

Of course, many other minors or cognates are possible in 128 credit hours, from music to philosophy, and can be worked out with a departmental advisor. For example,

Engineering and physics has long been recognized to be a valuable combination, and it is well respected throughout the scientific and engineering communities. Combining both fields guarantees a thorough grounding in the fundamental laws that underlie practical engineering principles. Required courses: Students selecting a math minor have 24 credit hours available for courses in engineering, and it is not required that all be taken in a single engineering discipline. Students selecting an engineering cognate instead of the math minor will have up to 30 available credit hours for engineering courses.

Example four-year schedules can be found at http://physics.uah.edu.

Once a student decides to major in physics, they should file a Program of Study after consultation with a faculty advisor in the department. No grade lower than a D may be counted toward the requirements for graduation listed in the student’s Program of Study. Students are encouraged to file a Program of Study at the earliest opportunity, and no later than the Fall semester of their sophomore year.

Physics Specializations

By opting to minor in mathematics, many credit hours become available for further, concentrated study in a particular area of physics. The Department supports three such specializations within physics: (1) applied and theoretical physics, (2) optics, and (3) astronomy and astrophysics. Upon successful completion of the required courses for a specialization, the student is awarded a certificate from the College of Science acknowledging their accomplishment and
specialization. (A grade of C or better is required for each of the courses in these curricula in order to qualify for the specialization recognition.)

1. Applied and Theoretical Physics

Physics has long been recognized as the true fundamental science, and the curriculum leading to the Applied and Theoretical Physics Certificate of Specialization guarantees that the student is exposed to all aspects of both fields. This program of study is designed specifically for the undergraduate student who has already decided to pursue a graduate degree in physics. Elective courses in Computer Science are strongly encouraged.

The required courses for this specialization are

- PH 310 - Intermediate Laboratory I
- PH 311 - Intermediate Laboratory II
- PH 421 - Thermal and Statistical Physics
- PH 432 - Intermediate Electricity and Magnetism II
- PH 451 - Introductory Quantum Mechanics I
- PH 452 - Introductory Quantum Mechanics II and PH/AST/OPT 3xx or 4xx (3-4 credit hours).

Electives

Since some of these courses can be counted toward the required or core physics courses as well, there are more than 6 credit hours available for free electives.

Excellent choices for the electives include

- AST 371 - Introduction to Astrophysics
- PH 306 - Computational Physics
- PH 337 - Electronics
- PH 453 - Introduction to Particle Physics
  or
- PH 474 - Introduction to General Relativity

2. Optics

Optics is a multidisciplinary field that requires a broad spectrum of knowledge. Beginning with the core physics courses, students completing the Optics Specialization receive a strong exposure to geometrical optics, physical optics, optical instruments, and interference and diffraction, along with laboratory experience using state-of-the-art equipment and modern optical techniques. In addition, the electives cover contemporary topics such as polarimetry, optoelectronics, lasers, optical sources and detectors, and radiometry. The Optics Specialization produces professionals who are able to move immediately into government or private industry, and are also well prepared for graduate work in optics, physics, or related fields.

The required courses for this specialization are

- OPT 341 - Geometrical Optics
- OPT 342 - Physical Optics
- OPT 411 - Geometrical Optics Laboratory
- OPT 412 - Physical Optics Laboratory
- OPT 441 - Optical Systems Design
  and PH/OPT 3xx and 4xx (3 credit hours).

Electives

Since some of these courses can be counted toward the required or core physics courses as well, there are about 10 credit hours available for free electives.

Excellent choices for the electives include

- PH 432 - Intermediate Electricity and Magnetism II
- PH 451 - Introductory Quantum Mechanics I
- PH 452 - Introductory Quantum Mechanics II
- OPT 444 - Optoelectronics
- OPT 445 - Introduction to Lasers
- OPT 446 - Radiometry, Detectors, and Sources
  or
- OPT 447 - Polarized Light and Polarimetry

3. Astronomy and Astrophysics

The fields of astronomy and astrophysics have seen great advances over the centuries, and especially over the last few decades. The introductory physics courses included in the physics core, along with the courses included in the mathematics minor, prepare students to study the nature and behaviour of our Universe. Students then secure a thorough understanding through several upper-level physics and astronomy courses, covering basic astronomy and astrophysics, stellar and galactic structure, high-energy astrophysics, general relativity and cosmology. Graduates who complete this curriculum find work in all aspects of astrophysics from low-level atmospheric physics, to solar physics and the Sun-Earth system and, finally, to the mysteries of dark matter and cosmology. With laboratory experience and exposure to electronics, students may also find work supporting astronomical guidance and control systems, both on terrestrial and spaceborne platforms.

The courses required for this specialization are

- AST 106 - Exploring the Cosmos I
- AST 107 - Exploring the Cosmos II
- AST 371 - Introduction to Astrophysics
- AST 471 - Stellar Astrophysics
- PH 474 - Introduction to General Relativity

Electives

Since some of these courses can be counted toward the required or core physics courses as well, there are 12 credit hours available for free electives.

Excellent choices for the electives are

- PH 306 - Computational Physics
• PH 337 - Electronics
• PH 421 - Thermal and Statistical Physics
• PH 432 - Intermediate Electricity and Magnetism II

PH 572
PH 579

All physics majors must take the following core courses:

• PH 110 - Frontiers in Science
• PH 111 - General Physics with Calculus I
  and
• PH 114 - General Physics Laboratory I
• PH 112 - General Physics with Calculus II
  and
• PH 115 - General Physics Laboratory II
• PH 113 - General Physics with Calculus III
  and
• PH 116 - General Physics Laboratory III
• PH 251 - Special Relativity
• PH 301 - Intermediate Mechanics
• PH 305 - Mathematical Methods in Physics
• PH 351 - Introduction to Modern Physics
• PH 499 - Physics Practicum
  and at least 8 credit hours in PH, OPT, or AST courses numbered 300 or above.

Physics majors are required to take

• MA 171 - Calculus A
• MA 172 - Calculus B
• MA 201 - Calculus C
• MA 238 - Applied Differential Equations
• MA 244 - Introduction to Linear Algebra
• CH 121 - General Chemistry I
  and
• CH 125 - General Chemistry Laboratory I
Additional Information

There are three specializations: Applied and Theoretical Physics, Optics, Astronomy and Astrophysics.

Model plan for Physics major with a Mathematics minor. Other minors and major concentrations are possible. The four year plans should be understood as examples of the many four year plans that are possible.

First Year

Fall: 17 Hours

- EH 101 - Freshman Composition
- CH 121 - General Chemistry I
  and
- CH 125 - General Chemistry Laboratory I
- MA 171 - Calculus A
- PH 110 - Frontiers in Science
- CS 102 - Introduction to C Programming

Spring: 15 Hours

- EH 102 - Freshman Composition
- CH 123 - General Chemistry II
  and
- CH 126 - General Chemistry Laboratory II
- MA 172 - Calculus B
- PH 111 - General Physics with Calculus I
  and
- PH 114 - General Physics Laboratory I

Second Year
Fall: 15 Hours

- MA 201 - Calculus C
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II

Elective 3 Semester Hours
History 1 3 Semester Hours
- PH 251 - Special Relativity

Spring: 16 Hours

- MA 238 - Applied Differential Equations
- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III

Elective 3 Semester Hours
History 2 3 Semester Hours
- CM 113 - Introduction to Rhetorical Communication

Third Year

Fall: 15 Hours

- PH 351 - Introduction to Modern Physics
  Soc & Behav 3 Semester Hours
- EH 301 - Technical Writing
  PH 3xx or 4xx 3 Semester Hours
- MA 244 - Introduction to Linear Algebra

Spring: 18

- PH 301 - Intermediate Mechanics
Fourth Year

Fall: 16 Hours

- PH 3xx or 4xx 3 Semester Hours
- Elective 3 Semester Hours
- Elective 3 Semester Hours
- Elective (e.g., AST 106/106L) 4 Semester Hours
- Humanities Course 3 Semester Hours

Spring: 16 Hours

- PH 499 - Physics Practicum
- Elective (e.g., AST 107/107L) 4 Semester Hours
- Fine Arts Course 3 Semester Hours
- Literature Course 3 Semester Hours
- MA 3xx or 4xx 3 Semester Hours

Science, General Education Requirements

Component 1:

General Education Requirements for the B.S. Degree

NOTE: COURSES TAKEN TO SATISFY REQUIREMENTS FOR ONE AREA ARE NOT APPLICABLE TO A SECOND AREA.

Area I: English Composition 6 Semester Hours

- EH 101 - Freshman Composition
- EH 102 - Freshman Composition
• EH 105 - Honors English Seminar
  Honors student's may substitute for EH 101 and 102

Area II: Humanities and Fine Arts 12 Semester Hours

No more than 6 semester hours can be counted in any one discipline.

Fine Arts 3 Semester Hours

• ARH 100 - Art History Survey: Ancient to Medieval
• ARH 101 - Art History Survey: Renaissance to Modern
• ARH 103 - Art History Survey: Art in Non-Western Traditions
• ARS 160 - Introduction to Drawing
• MU 100 - Introduction to Music Literature
• CM 122 - Theater Appreciation

Literature 3-6 Semester Hours

• EH 205 - British Literature I
• EH 206 - British Literature II
• EH 230 - American Literature I
• EH 231 - American Literature II
• EH 240 - World Literature I
• EH 241 - World Literature II
• EH 250(H) - Honors World Literature I
• EH 251(H) - Honors World Literature II

Pairings must include one course from area I and one from area II. Students must complete a two course sequence in either literature or history.

Humanities and Fine Arts 3-6 Semester Hours

• PHL 101 - Introduction to Philosophy
• PHL 201 - Introduction to Logic
• PHL 202 - Introduction to Ethics
• FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language I
• FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language II
FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
FL 204 - International Cinema (Taught in English)
WS 200 - Introduction to Women's Studies
ARH 100 - Art History Survey: Ancient to Medieval
ARH 101 - Art History Survey: Renaissance to Modern
ARH 103 - Art History Survey: Art in Non-Western Traditions
ARS 160 - Introduction to Drawing
MU 100 - Introduction to Music Literature
CM 122 - Theater Appreciation

Area III: Natural Sciences and Mathematics 11-12 Semester Hours

Mathematics 3-4 Semester Hours

One course in pre-calculus with algebra or higher (MA 110 or higher). All B.S. degrees require completion of a calculus course, MA 120 or 171. See disciplines for specific course requirements.

- MA 110 - Finite Mathematics
- MA 112 - Precalculus Algebra
- MA 113 - Precalculus Trigonometry
- MA 115 - Precalculus Algebra and Trigonometry
- MA 120 - Calculus with Applications
  or
- MA 171 - Calculus A
  Course selection based on placement.

Natural Science 8 Semester Hours

A two course sequence in a laboratory natural science outside the major, minor or cognate (see disciplines for specific requirements).

Area IV: History, Social and Behavioral Sciences 11-12 Semester Hours

History 3-6 Semester Hours

Students must complete a two course sequence in either history or literature.

- HY 101 - Western Civilization, Part I
- HY 102 - Western Civilization, Part II
- HY 103 - World History to 1500
- HY 104 - World History from 1500
• HY 221 - The United States to 1877
• HY 222 - The United States Since 1877

Social and Behavioral Sciences 6-9 Semester Hours

No more than 6 Semester Hours may be counted in one discipline.

• PSC 101 - American Government
• PSC 102 - Comparative Politics and Foreign Governments
• PSC 260 - Introduction to International Relations
• PY 101 - General Psychology I
• PY 201 - Life-Span Development
• SOC 100 - Introduction to Sociology
• SOC 206 - Marriage and Family
• SOC 105 - Introduction to Cultural Anthropology
• ECN 142 - Principles of Macroeconomics
• ECN 143 - Principles of Microeconomics
• GS 199 - Study Abroad
• GS 200 - Global Systems and Cultures
• GY 105 - World Regional Geography
• GY 110 - Principles of Human Geography

Area V: Pre-professional and Elective Courses 9-15 Semester Hours

Science or engineering course outside the major and not counted in the minor of cognate requirements (3-4 Semester Hours). MA or CS majors must take a 4 hour laboratory science courses to meet this requirement. See individual majors for specific courses required.

Electives 0-4 Semester Hours. Calculus must be taken here if not taken in the Mathematics and Natural Sciences area.

• CS 100 - Introduction to Computers and Programming
• CS 102 - Introduction to C Programming
• CS 103 - Introduction to Programming using Java
• CS 121 - Computer Science I
• EH 301 - Technical Writing

Component 2

Major Requirement for B.S. Degree: See specific disciplines--minimum of 36 Semester Hours. Minor or Cognate Requirement for B.S. Degree: See Specific disciplines--minimum 21 Semester Hours (a minor is composed of courses in one discipline, and a cognate crosses disciplines). Electives: Sufficient courses to meet the minimum 128 Semester Hour degree requirement and the required 39 Semester Hours of course numbered 300 or above.
Component 3

**Residency Requirement:** A minimum of 25 percent of the total degree requirements and 12 of the last 18 hours must be completed at UAHuntsville. Also, 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 UAHuntsville in a student's program, distributed as 6 hours in the major and 6 hours in the minor or cognate.

**Non-Degree**

**Art History Minor**

21 semester hours within the Department of Art and Art History

- ARH 100 - Art History Survey: Ancient to Medieval
- ARH 101 - Art History Survey: Renaissance to Modern
- ARH 103 - Art History Survey: Art in Non-Western Traditions
- ARH 309 - Contemporary Art and Issues
  - One 300 level art history before 1800 3 Semester Hours
  - One 300 level art history after 1800 3 Semester Hours
  - One 300 level art history elective 3 Semester Hours

**Note(s):**

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.

**Atmospheric Science Minor**

A minor in atmospheric science includes:

- ESS 111 - Climate and Global Change
- ESS 112 - Severe and Hazardous Weather
- ATS 401 - Survey of Atmospheric Science

plus at least 12 hours of advanced coursework selected from:
- ESS 303 - Classification and Physical Causes of Climates
- ESS 305 - Hydrology
- ESS 321 - Pollution Problems
- ESS 331 - Global Climate Change and Infectious Disease
- ATS 411 - Introduction to Geographical Information Systems
- ATS 413 - Geographical Information Systems and Remote Sensing
- ATS 414 - Scale and Landscape in GIS
- ATS 415 - Advanced Topics in GIS
- ATS 420 - Introduction to Atmospheric Chemistry and Air Pollution
- ATS 441 - Atmospheric Thermodynamics and Cloud Physics
- ATS 451 - Atmospheric Fluid Dynamics I
- ATS 452 - Synoptic Meteorology
- ATS 454 - Forecasting Mesoscale Processes
- ATS 461 - Atmospheric Radiation I

At least 3 hours of the selected advanced coursework must be at the 400-level.

Additionally:

- PH 111 - General Physics with Calculus I
- PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II
- PH 115 - General Physics Laboratory II
- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
  are required ancillary courses for the minor.

- PH 113 - General Physics with Calculus III
- PH 116 - General Physics Laboratory III
- ST 281 - Elements of Statistical Analysis
- MA 244 - Introduction to Linear Algebra
- MA 238 - Applied Differential Equations
  are suggested but not required.

Additional Information

To prepare for the “meteorologist” category when applying for GS rated jobs with the National Weather Service, a minimum of 24 semester credits in atmospheric science are required. The following advanced courses are required:
• ATS 413 - Geographical Information Systems and Remote Sensing
• ATS 441 - Atmospheric Thermodynamics and Cloud Physics
• ATS 451 - Atmospheric Fluid Dynamics I
• ATS 452 - Synoptic Meteorology
• ATS 454 - Forecasting Mesoscale Processes
• ATS 461 - Atmospheric Radiation I

These courses are recommended.

• ST 281 - Elements of Statistical Analysis
• MA 244 - Introduction to Linear Algebra
• MA 238 - Applied Differential Equations

Biological Sciences Minor

A minor in biological sciences includes

• BYS 119 - Principles of Biology
• BYS 120 - Organismal Biology
• BYS 219 - Genetics and Evolution
  plus at least 9 hours of advanced coursework.

The minor also includes one course selected from an area of anatomy and one course selected from an area of physiology, biochemistry, or molecular biology.

Anatomy options:

• BYS 214 - Infection and Immunity
• BYS 300 - Cell and Developmental Biology
• BYS 315 - Ichthyology
• BYS 317 - Vertebrate Zoology
• BYS 321 - General Microbiology I
Physiology/biochemistry/molecular biology options:

- BYS 301 - Elementary Biochemistry
- BYS 314 - Anatomy and Physiology II
- BYS 318 - Vertebrate Reproduction
- BYS 322 - General Microbiology II
- BYS 361 - General Biochemistry
- BYS 400 - Neuroscience
- BYS 401 - Exercise Physiology
- BYS 402 - Kinesiology and Biomechanics
- BYS 403 - Advanced Exercise Physiology
- BYS 405 - Psychopharmacology
- BYS 430 - Immunology
- BYS 437 - Psychobiology of Stress & Illness

Note(s):

BYS 313 and 314 taken together can be used to satisfy the distribution requirement.

Additionally:

- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory
- CH 201 - Elementary Organic Chemistry or equivalent

are required ancillary courses for a biological sciences minor.

A course in biochemistry

- BYS 301 - Elementary Biochemistry or
- CH 301 - Elementary Biochemistry

supports the minor but is not required.

For a minor in the ACS biochemistry track, the following set of courses is recommended:
• BYS 119 - Principles of Biology
• BYS 120 - Organismal Biology
• BYS 219 - Genetics and Evolution
• BYS 300 - Cell and Developmental Biology
• BYS 321 - General Microbiology I and 519, 543 or 547

Business Minor

Students may minor in business to facilitate career goals that require a broad knowledge of the functional areas of business. A minor in business includes the following courses:

Course Work

• ECN 142 - Principles of Macroeconomics
• ECN 143 - Principles of Microeconomics
• ACC 211 - Financial Accounting
• MSC 287 - Business Statistics I *
• FIN 375 - Financial Institutions
• MGT 301 - Managing Organizations
• MKT 301 - Principles of Marketing

21 Semester Hours

Note(s):

*Students taking SOC 333, PY 300, MA 385, ISE 390 or equivalent introductory statistics should substitute a 300 or 400 level business elective.

Chemistry Minors

Course sequences for students wishing to minor in chemistry require at least 21 hours of chemistry including 6 or more hours numbered 300 or above. Courses in organic chemistry completed at the junior college level may be used to satisfy hour and prerequisite requirements for upper level chemistry courses at UAHuntsville but do not count toward the 300-level requirements of the minor.

Approved sequences are shown below.

Others are subject to Chemistry Department approval.
For premedical and predental students:

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
- CH 332 - Organic Chemistry II
- CH 335 - Organic Chemistry Laboratory I
- CH 336 - Organic Chemistry Laboratory II
- CH 361 - General Biochemistry I or
- CH 362 - General Biochemistry Laboratory I

For some biology and medical technology majors:

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 223 - Quantitative Analysis
- CH 224 - Quantitative Analysis Laboratory
- CH 331 - Organic Chemistry I
- CH 332 - Organic Chemistry II
- CH 335 - Organic Chemistry Laboratory I
- CH 361 - General Biochemistry I
- CH 362 - General Biochemistry Laboratory I

For physics, mathematics, and chemical engineering majors:

- CH 121 - General Chemistry I
- CH 125 - General Chemistry Laboratory I
- CH 123 - General Chemistry II
- CH 126 - General Chemistry Laboratory II
- CH 331 - Organic Chemistry I
- CH 332 - Organic Chemistry II
- CH 335 - Organic Chemistry Laboratory I
- CH 341 - Physical Chemistry I
• CH 342 - Physical Chemistry II

For biology majors taking BYS 361 and 362:

• CH 121 - General Chemistry I
• CH 123 - General Chemistry II
• CH 125 - General Chemistry Laboratory I
• CH 126 - General Chemistry Laboratory II
• CH 223 - Quantitative Analysis
• CH 224 - Quantitative Analysis Laboratory
• CH 331 - Organic Chemistry I
• CH 332 - Organic Chemistry II
• CH 335 - Organic Chemistry Laboratory I
• CH 347 - Biophysical Chemistry I

Classical Studies Minor

Classical studies differs from other departments' study of the art, history, philosophy, literature, or politics of the classical period by its requirement that the student command a reasonable facility in an ancient language. The point at which a student begins the university-level study of that language will determine the total number of hours required for the minor. If a student begins the language with a course numbered 200 or above, the minor requires the completion of at least 21 credit hours from the following courses. If the student begins with a language course numbered in the 100s, the requirement is 27 hours. For all students, at least 9 of the credit hours must be earned in courses numbered 300 or above, 12 from courses in the same classical language regardless of language placement level, and 9 from courses in subjects other than that language.

Requirements:

21 hours total (27 hours if language placement is not at 200-level or above)
12 hours in one classical language (regardless of placement level)
12 hours in classes numbered 300 or above
9 hours in classes other than the language.

Classical Studies Courses

• CL 100 - Survey Ancient to Medieval
• CL 101 - Elementary Latin I
• CL 102 - Elementary Latin II
• CL 199 - Special Topics
• CL 201 - Intermediate Latin I
• CL 229 - Survey of Ancient Times
• CL 242 - Mythology
Cognate Studies in Technical Writing

This unique cognate is available for students with majors in any school. Students preparing for a career in the field of technical writing should combine intensive training in writing with practical experience and fundamental technical skills. The 22 hour cognate studies curriculum brings together all three. All students must take EH 301 (Technical Writing), EH 302 (Technical Editing), and EH 320 (Practicum in Writing). Students with non-technical majors (e.g., English, communication) 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.

A typical program for a non-technical major is as follows:

- EH 301 - Technical Writing
- EH 302 - Technical Editing
- EH 320 - Practicum in Writing
- CM 205 - Media Writing
- EHL 405 - Survey of General Linguistics: Applied English Linguistics I and others
  Technical courses approved by Director 9 Semester Hours

Total: 22 Hours

Communication Arts Minor

Students in major courses of study, which might be complemented by rhetorical or technical communication studies, are invited to consult the chair of communication arts about developing a minor. Among those whose studies might be complemented by a minor in communication arts are: liberal arts students seeking to enhance their career opportunities through an understanding of practical discourse; English majors interested in rhetorical perspectives on literature; psychology and sociology majors who believe communication will be central to their work; engineering and science students who need to know how to present their ideas effectively to both technical and non-technical audiences (especially if they enter management positions); political science students interested in understanding communication processes central to political life; administrative science majors planning to enter a field where effective communication skills are highly valued, and pre-law majors.
A minor in communication arts consists of 21 hours of coursework taken within the department, at least 12 hours of which must be taken at or above the 300-level. At least half of the upper-level requirement must be taken at UAHuntsville.

All minors are required to take the following:

- CM 113 - Introduction to Rhetorical Communication
- CM 231 - Foundations of Human Communication
- CM 331 - Communication Theory
- CM 309 - History of Rhetoric
  12 hours of electives from CM (or approved courses in an allied discipline)

Note(s):

Those choosing a minor emphasizing technical communication should take CM 309 (rather than CM 331) in the core above, and elect to take CM 301, 302, 320, and one approved technical course.

Computer Science Minors

The department offers two minors that are described below. The request for a minor should be initiated in the student’s major department.

Computer Science Minor

Suitable for students with a major in a technical field:

- CS 105 - Computer Science Seminar ? Ethics and Professionalism
- CS 121 - Computer Science I
- CS 214 - Introduction to Discrete Structures
- CS 221 - Computer Science II: Data Structures
- CS 317 - Introduction to Design and Analysis of Algorithms
- CS 321 - Introduction to Object-Oriented Programming in Java
  and two CS electives,* one at the 300-level or higher and one at the 400-level or higher.

Note(s):

Select from CS 309, 413, and 490 as electives, if considering an M.S. in computer science.

Computer Languages and Systems Minor

Suitable for students with non-technical majors and minimal mathematics background:
• CS 102 - Introduction to C Programming
• CS 105 - Computer Science Seminar ? Ethics and Professionalism
• CS 121 - Computer Science I
• CS 221 - Computer Science II: Data Structures
• CS 321 - Introduction to Object-Oriented Programming in Java
and three CS electives,* two at the 300-level or higher and one at the 400-level or higher.

Note(s):

*Students must observe prerequisites when choosing elective courses.

Earth System Science Minor

The Earth System Science Minor consists of

• ESS 102 - Physical Geology
• ESS 111 - Climate and Global Change
• ESS 305 - Hydrology
• ESS 321 - Pollution Problems
and at least two additional ESS semester hours

Economics Minor

Students can minor in economics by taking 18 hours of economics courses. Twelve specific hours are required and the remaining six are electives. A total of twelve hours must be at the 300 level or above. Students in the College of Business Administration may obtain a minor in economics. ECN 142 and ECN 143 may be counted in both the General Education Requirement (GER) and in the economics minor. Furthermore, the Upper Division General Education Requirement economics course may be counted in the economics minor. However, any course that is utilized in the 21 hours for a business major may not be used in the Economics minor.

Course Work

• ECN 142 - Principles of Macroeconomics
• ECN 143 - Principles of Microeconomics
• ECN 340 - Macroeconomic Analysis
• ECN 345 - Microeconomic Analysis
6 hours selected from the following list of courses:

- ECN 352 - Money and Banking
- ECN 406 - Sports Economics
- ECN 454 - International Economics
- ECN 470 - Seminar in Economics
- ECN 475 - Economics of Labor Markets and Human Resources

18 Semester Hours

**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. Half of the upper-level requirement (6 semester hours) must be taken at UAHuntsville.

**Requirements**

- Sophomore literature (as described in GER) 6 Semester Hours
- EH 360 - Shakespeare
  
Courses numbered 300 or 400 6 Semester Hours (Please note: courses in technical and business writing may not be used in the minor without special approval by the department chair)  
Courses numbered 400 3 Semester Hours  
EH elective 3 Semester Hours

Total: 21 Hours

**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.

**Requirements**
- FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language I
- FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices: Communicating in a Second Language and Culture: Introductory Foreign Language II
- FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I
- FL 202F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language II
- FL 301 - Conversation
- FL 302 - Composition
- FL 305 - Introduction to Literature

One course from the following:

- FL 303 - Foreign Language for Life and Professions
- FL 304 - Culture
- FL 404 - Texts and Contexts: Seminar in Literature

Total: 24 Hours

Global Studies Cognate

Working with the Global Studies Advisor, students develop a thematic focus that suits their interests, and one that will ideally assist them in their careers or graduate studies.

I. General Requirements:

- Overall, the cognate must include a minimum of 27 hours. At least 9 hours must be in courses numbered 300 or above. No more than 6 credits applied to the cognate can be from the student’s major field of study. The cognate program must be approved by the Global Studies Advisor.

II. Core Courses: 9 Hours, including:

- GY 105 - World Regional Geography
- GS 200 - Global Systems and Cultures
- GS 400 - Topics in Global Studies
III. Electives: 18 Hours

- At least 3 hours, but no more than 9, must be taken in Category A. The remainder of credits must come from Category B.
- Electives must be chosen from at least three departments.

IV. Students are encouraged to select globally oriented general education requirements (GERs)

Examples include:

- ARH 103 - Art History Survey: Art in Non-Western Traditions
- EH 240 - World Literature I
- EH 241 - World Literature II
- HY 103 - World History to 1500
- HY 104 - World History from 1500
- PSC 102 - Comparative Politics and Foreign Governments
- PSC 260 - Introduction to International Relations
- SOC 105 - Introduction to Cultural Anthropology

Category A:

Foreign Language

All courses offered in French, German, Russian, and Spanish

- FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I (also offered in Latin)
- FL 301 - Conversation
- FL 302 - Composition
- FL 303 - Foreign Language for Life and Professions
- FL 304 - Culture
- FL 305 - Introduction to Literature
- FL 404 - Texts and Contexts: Seminar in Literature
- FL 499 - Independent Studies (also offered in Latin)

Category B:

Courses examining societies and cultures, their histories, and relationships with each other.

Art History
• ARH 301 - Ancient Greek Art
• ARH 302 - Medieval Art
• ARH 303 - Renaissance Art
• ARH 304 - Twentieth Century Art
• ARH 305 - Ancient Roman Art
• ARH 307 - Impressionism and Post-Impressionism
• ARH 309 - Contemporary Art and Issues
• ARH 310 - Nineteenth Century Art

Communications

• CM 309 - History of Rhetoric

English

• EH 240 - World Literature I
• EH 241 - World Literature II
• EH 242 - Mythology
• EH 415 - Studies in Anglophone/Postcolonial Literature /515
• EH 421 - Modern Drama
  EH 522
• EH 425 - Literature and Technology

Foreign Languages and Literatures

• FL 204 - International Cinema (Taught in English)

Global Studies

• GS 199 - Study Abroad
• GS 399 - Study Abroad

History
- HY 229 - Survey of Ancient Times
- HY 230 - The Rise of Medieval Civilizations
- HY 329 - Imperial Rome
- HY 341 - Modern France
- HY 348 - English History since 1660
- HY 373 - Foreign Relations of the U. S. to 1920
- HY 374 - Foreign Relations of the U. S. since 1920
- HY 375 - Imperial Russia
- HY 376 - Soviet Russia
- HY 380 - China since 1600
- HY 391 - Europe, 1500-1789
- HY 392 - Europe Since 1789
- HY 424 - The Atlantic World
- HY 473 - The High Middle Ages
- HY 474 - The Renaissance and Reformation
- HY 475 - Crisis in Europe, 1560-1660
- HY 476 - Absolutism and Enlightenment, 1660-1763
- HY 477 - The French Revolution and Napoleon
- HY 478 - Europe in the Nineteenth Century
- HY 479 - Europe in the Twentieth Century

Music

- MU 311 - History of Music I
- MU 312 - History of Music II

Philosophy

- PHL 301 - Ancient Philosophy
- PHL 302 - Modern Philosophy
- PHL 303 - Contemporary Philosophy
- PHL 310 - Philosophy of Art
- PHL 314 - Philosophy of Eastern and Western Religions
- PHL 330 - Classical Political Philosophy
- PHL 332 - Modern Political Philosophy
  PHL 335

Political Science
- PSC 260 - Introduction to International Relations
- PSC 330 - Classical Political Philosophy
- PSC 332 - Modern Political Philosophy
- PSC 340 - Government and Politics of Industrializing & Post Industrial Countries
- PSC 341 - Government and Politics of Modernizing Countries
- PSC 436 - Political Ideologies
- PSC 438 - Contemporary Political Thought
- PSC 464 - American Foreign Policy
- PSC 468 - United States National Security Policy

Psychology

- PY 407 - Cross-cultural Psychology

Sociology

- SOC 105 - Introduction to Cultural Anthropology
- SOC 415 - Cultural Change
- SOC 435 - Sociology of Social Movements

Note(s):

Additional courses, such as special topics courses, may also be counted toward fulfilling the requirements of category B with the approval of the Global Studies Adviser.

**History Minor**

A student interested in establishing a history minor must take a minimum of 21 semester hours of history beyond HY 101-102 or HY 103-104 (GER) and including 12 semester hours in courses numbered 300 or above. The minor program must have the approval of the History Department chair. Appropriate history courses may also form a part of an area of cognate studies with other disciplines to support another major program. Such a program must be approved by the student’s major department and must meet the requirement of a minimum of 12 upper division semester hours, of which 9 hours must be in history.

**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 Department of Education.

**Advanced Placement Credit**
Elective credit will be given to AP American History students who have earned a score of 4 on Advanced Placement (AP) Program examinations of the College Entrance Examination Board. This credit may be used in substitution for HY 221 and HY 222 at UAHuntsville. Under no circumstances may AP American History be used as a substitute for HY 101 and/or HY 102, and/or HY 103 and/or HY 104. Credit for the AP European History course (1470-Present) will be awarded to students who earn a score of 4 on the AP examination, and this credit may be used as a substitute for HY 102 only. A maximum of 3 credit hours will be granted for this examination. In order to fulfill GER requirements, such students will still have to take HY 101 or its equivalent as approved by the department.

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 101, HY 202, HY 103, 104, 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 Western Civilization (HY 101 and/or HY 102), 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 101, 102, 103, and 104, and 60 for HY 221 and 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).

Human Resource Management Minor

Students planning for careers in Human resource management may consider a minor in HRM. The 18 hour minor includes the following courses:

Required courses:

- MGT 301 - Managing Organizations
- MGT 361 - Organizational Behavior *
- MGT 363 - Human Resource and Labor Relations Management
- MGT 460 - Employee Staffing and Development
- MGT 462 - Employment Law for Managers

3 hours selected from the following courses:

- MGT 461 - Strategic Compensation Management
- ECN 475 - Economics of Labor Markets and Human Resources
- MGT 410 - Leadership, Personal Development and Organizations
- MGT 404 - Negotiation Techniques
18 Semester Hours

Note(s):

*PY 402 may be used as a substitute for MGT 361.

Intensive English Program

Students who are nonnative speakers of English and are interested in pursuing English language study prior to enrollment in a degree program may participate in the Intensive English Program (IEP). The IEP is designed for nonnative speakers in intermediate to advance pre-academic levels as indicated by the following score ranges in the Test of English as a Foreign Language (TOEFL).

TOEFL: 450-500 (paper-based); 133+ (computer-based); 45+ (internet-based)

This program is appropriate for students who are nonnative speakers of English, have achieved basic knowledge in the English language, and are interested in pursuing a degree or degrees at an institution of higher education in the U.S. The program is academic in its orientation, with a focus on the development of the production and comprehension of Standard American English and a commitment to encouraging both linguistic and pragmatic competence. The program is offered during the regular fall, spring and summer terms.

(Change variable credit from 1-12 to 1-20 hours to reflect the actual seat time in class per week. The IEP is now serving a breath of students with various enrollment requirements. Initially, the program was set at a full-time 12 hours to meet SEVIS standards. Given the variation of status among students attending the IEP in combination with the tuition increase implemented AY 10/11, the 1-20 hours will reflect (a) real seat time in the classes and (b) flat fee rate of $200 per hour for the program).

For information regarding application and admission to the program as well as details about placement and curriculum, visit the IEP website at: http:esl.uah.edu/IEP.htm or contact the director of IEP at iep@uah.edu.

International Business Minor

Students in the College of Liberal Arts who are interested in pursuing a career in international business may wish to combine a foreign language major with a minor in international business through the College of Business Administration. For more information on the international business minor, consult the catalogue pages for the College of Business Administration For such a minor, ECN 142 and ECN 143 count in the general education requirement, and in no case may the Business Administration courses included in a student’s program of study exceed 25 percent of the student’s program.

A minor in international business includes the following courses:

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics
- ACC 211 - Financial Accounting
• ACC 212 - Management Accounting
• MSC 287 - Business Statistics I or
  SOC 303 - Statistics for the Social Sciences
• FIN 301 - Principles of Finance
• FIN 454 - International Finance
• MGT 301 - Managing Organizations
• MKT 301 - Principles of Marketing
• MKT 415 - International Marketing
• MGT 450 - International Business

Total: 33 Hours

Management and Leadership Minor

Students planning for careers that require management and leadership skills may consider a minor in Management and Leadership. The Management and Leadership minor is a campus-wide undergraduate minor. The minor includes required courses from the field of management, and potential elective courses from communications, psychology, sociology, nursing, and political science. The 18 hour minor includes the following courses.

Required courses:

• MGT 301 - Managing Organizations
• MGT 361 - Organizational Behavior
• MGT 363 - Human Resource and Labor Relations Management
• MGT 462 - Employment Law for Managers

6 hours selected from the following courses:

• MGT 410 - Leadership, Personal Development and Organizations
• CM 313 - Business and Professional Communication
• MGT 450 - International Business
• MGT 460 - Employee Staffing and Development
• MGT 461 - Strategic Compensation Management
• MGT 470 - Special Topics in Management
• NUR 406 - Leadership and Management in Nursing
• PSC 304 - American Presidency
• PY 375 - Social Psychology
• SOC 375 - Social Psychology
• PY 402 - Industrial and Organizational Psychology
• ISE 402 - Industrial and Organizational Psychology
• SOC 455 - Sociology of Work and Occupations
• SOC 439 - Complex Organization in Industrial Society

18 Semester Hours

Marketing Minor

Many students with majors from the College of Liberal Arts 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.

The marketing minor includes the following courses:

• MKT 301 - Principles of Marketing

18 hours selected from the following courses:

• MKT 315 - Sales Management and Professional Selling
• MKT 325 - Legal and Ethical Issues of Marketing on the Internet
• MKT 332 - Buyer Behavior
• MKT 342 - Promotional Strategy
• MKT 343 - Marketing Research Design
• MKT 405 - New Venture Strategies
• MKT 410 - Transportation and Logistics
• MKT 414 - Marketing Emerging Technologies
• MKT 415 - International Marketing
• MKT 420 - Services Marketing
• MKT 470 - Marketing in an Electronic Environment
• MKT 475 - Advanced Marketing Seminar
• MKT 480 - Marketing Management
• MKT 490 - Special Projects
21 Semester Hours

Note(s):

Students outside of the College of Business Administration are encouraged to take ECN 142, Principles of Macroeconomics and ECN 143, Principles of Microeconomics in their social science general education requirements.

Mathematics Minor

Students majoring in other academic areas who wish to minor in mathematics may select, in consultation with and approval of the mathematical sciences department, at least 21 semester hours of appropriate courses in mathematics, including 6 semester hours in courses numbered above 300. Only MA courses numbered 171 or above may be included in a mathematics minor, and an overall average of C is required for all UAHuntsville MA or ST courses that are included in a mathematics minor.

A typical mathematics minor consists of

- MA 171 - Calculus A
- MA 172 - Calculus B
- MA 201 - Calculus C
- MA 244 - Introduction to Linear Algebra
  and two approved MA courses numbered above 300

Note(s):

All minors must include MA 171 and MA 172.

Music Minor

Students may select music as a supportive minor to their major discipline.

A total of 23 hours of music are necessary (12 hours upper-level), including the following courses:

- MU 100 - Introduction to Music Literature
- MU 201 - Theory of Music I
- MU 203 - Musicianship Skills I
Total Semester Hours: 23 - 12 Upper Level

Music Technology Minor

Students may select music technology as a supportive minor for computer engineering, electrical engineering and computer science.

The music technology minor includes the following courses:

- MU 100 - Introduction to Music Literature
- MU 106 - Introduction to Music Technology
- MU 201 - Theory of Music I
- MU 203 - Musicianship Skills I
- MU 202 - Theory of Music II
- MU 204 - Musicianship Skills II
- MU 306 - Music Technology
- MU 404 - Music Technology Individual Projects
- MU 406 - Internship in Music Technology

Ensemble (2 credits) (MUX 3XX)

Total Semester Hours: 23 - 11 Upper Level

Philosophy Minor

Students minoring in philosophy must complete at least 21 semester hours in philosophy including PHL 201 and 202. 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.

Courses
• PHL 201 - Introduction to Logic
• PHL 202 - Introduction to Ethics

Physics Minor

Students majoring in other academic areas may minor in physics. The Department of Physics supports three minors, given below. An overall average of C or better is required for the courses constituting the minor.

Physics Minor

Required courses:

• PH 110 - Frontiers in Science
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I
• PH 112 - General Physics with Calculus II
• PH 115 - General Physics Laboratory II
• PH 113 - General Physics with Calculus III
• PH 116 - General Physics Laboratory III
  and PH 3xx or 4xx (minimum of 6 credit hours)

Minimum Total Credits 21

Optics Minor

Required courses:

• PH 110 - Frontiers in Science
• PH 111 - General Physics with Calculus I
• PH 114 - General Physics Laboratory I
- PH 112 - General Physics with Calculus II  
- PH 115 - General Physics Laboratory II
- PH 113 - General Physics with Calculus III  
- PH 116 - General Physics Laboratory III

PH/OPT 3xx or 4xx (minimum of 3 credit hours)
- OPT 341 - Geometrical Optics  
- OPT 411 - Geometrical Optics Laboratory

Minimum Total Credits 23

Astronomy and Astrophysics Minor

Required courses:

- PH 110 - Frontiers in Science
- PH 111 - General Physics with Calculus I  
- PH 114 - General Physics Laboratory I

PH 3xx or 4xx (minimum of 3 credit hours)
- AST 106 - Exploring the Cosmos I  
- AST 107 - Exploring the Cosmos II
- AST 371 - Introduction to Astrophysics

Minimum Total Credits 21

Note(s):  
PH 499 is an acceptable course for the PH3xx or 4xx elective.

Political Science Minor
The student choosing a minor in political science must take 21 hours of course work including

- PSC 101 - American Government
- PSC 102 - Comparative Politics and Foreign Governments
- PSC 484 - Senior Seminar in Political Science (during the junior or senior year).

**Pre-Law Business Minor**

The work of successful lawyers is increasingly associated with the rendering of opinions and counsel on business matters such as banking, insurance, real estate titles, business contracts, etc. Corporations employ many lawyers full time for their contract and other legal work, and the young lawyer who has a degree in business will be at a distinct advantage in obtaining and doing such work.

Each law school determines its own requirements, such as admission criteria, number and type of semester hours required for entrance, etc. Students planning to enter a law school should be in communication with that school shortly after entering college to insure the program they take will meet all requirements of the law school the student plans to attend. For more detailed information the student should read the Pre-Law Program section of this catalog. The pre-law business minor includes the following courses:

**Course Work**

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics
- ACC 211 - Financial Accounting
- ACC 212 - Management Accounting
- BLS 211 - Legal Environment of Business
- BLS 411 - Business Law for Accountants
- MSC 287 - Business Statistics I
- FIN 301 - Principles of Finance
- MGT 301 - Managing Organizations
- MKT 301 - Principles of Marketing

**30 Semester Hours**

**Pre-MBA Minor**

Students who do not major in business but plan to enter an MBA program upon graduation should be in communication during their junior and senior years with the MBA schools they are considering attending. Depending upon the MBA
school selected, a student may be able to shorten the required MBA coursework by 18 graduate hours, depending upon the undergraduate coursework. An undergraduate advisor for the College will assist students in preparing a pre-MBA minor tailored for a specific school. A typical pre-MBA minor consists of the following courses:

**Course Work**

- ECN 142 - Principles of Macroeconomics
- ECN 143 - Principles of Microeconomics
- ACC 211 - Financial Accounting
- ACC 212 - Management Accounting
- BLS 211 - Legal Environment of Business
- MSC 287 - Business Statistics I
- MSC 288 - Business Statistics II
- FIN 301 - Principles of Finance
- MGT 301 - Managing Organizations
- MKT 301 - Principles of Marketing
- MSC 385 - Production/Operations Management

**33 Semester Hours**

**Psychology Minor**

A minor in psychology consists of 21 hours of psychology courses of which 12 hours must be numbered 300 or above. Course work required for the minor is specified below.

**Curriculum for Minors**

- PY 101 - General Psychology I
- PY 102 - Applications in Psychology
  One course from Group A 3 Semester Hours
  One course from Group B 3 Semester Hours
  **PY electives (6 hours must be 300-level or above) 9 Semester Hours**

**Group A:**

- PY 314 - Learning
- PY 316 - Perception
• PY 380 - Cognition
• PY 436 - Biological Psychology

Group B:

• PY 301 - Personality
• PY 315 - Developmental Psychology
• PY 375 - Social Psychology
• PY 433 - Abnormal Psychology

Total: 21 Hours

Sociology Minor

A student developing a minor in sociology with a major in another discipline must complete 21 hours of sociology courses:

• SOC 100 - Introduction to Sociology
  6 hours in Sociology courses at any level
  12 hours in Sociology courses at level 300 or above

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 chair of the student’s major department.

Studio Art Minor

21 semester hours within the Department of Art and Art History

• ARS 160 - Introduction to Drawing
  Two ARS 200-level studio courses 6 Semester Hours
Theatre Cognate

Dr. Sonja Brown Givens, Chair, Communication Arts
342 Morton Hall
Telephone: (256) 824-6646
Email: comm@email.uah.edu

Students majoring in communication arts may minor in an interdisciplinary cognate in theatre. This program combines courses from theatre with electives in literature, music, art, cinema, philosophy, and nonverbal communication.

The minor requires 24 semester hours, including a 15-hour core, and 9 hours of electives from Groups A and B as specified below:

1) Theatre requirements: 15 Hours

- CM 122 - Theater Appreciation
- CM 221 - Acting
- CM 322 - Theater History I
- or CM 323 - Theater History II
- CM 325 - Elements of Theatre Production
- CM 425 - Theatre Mainstage

2) Electives: 9 Hours

Three hours of which must be chosen from Group A, and six hours of which must be chosen from Group B:

Group A:

- ARS 140 - Three-Dimensional Design
- ARS 160 - Introduction to Drawing
- FL 204 - International Cinema (Taught in English)
- MU 100 - Introduction to Music Literature

Group B:
• EH 360 - Shakespeare
• EH 380 - Restoration and Early Eighteenth Century
• EH 421 - Modern Drama
• PHL 310 - Philosophy of Art
• PY 330 - Nonverbal Communication
• CM 330 - Nonverbal Communication

Additional Information

Appropriate special topics courses may also be used as electives when approved by the chair of Communication Arts.

Questions about this program should be directed to Mr. David Harwell, 325 Morton Hall, email: harweld@uah.edu

Web Communications Cognate (Web Cognate)

30 semester hours within the Department of Art and Art History, Management Information System, Technical Writing, and Marketing

The Web Communications Cognate offers an interdisciplinary cognate in web development with an emphasis on web design and management. This program combines courses in graphic arts, management information systems (MIS), marketing, and technical writing 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, technical communication, corporate communication, and publishing. The number of courses required for the cognate is moderate at 30 semester hours; however, students may complete cognate courses as part of their major and their general education requirements. Students majoring in art studio, MIS, and marketing are particularly well positioned to complete cognate courses in their major degree programs with only 18–21 hours of cognate courses outside of the major. Students with other majors should contact the Program Director to determine the number of hours they can complete outside the cognate. A certificate in Web Communications will be awarded to students who complete their coursework at UAHuntsville and maintain a minimum 2.5 grade point average in the cognate. Students lacking computer skills in Windows© and Macintosh® operating systems, word processing, and database applications are encouraged to take MIS 146 prior to taking any of the technical courses in the cognate. Familiarity with the Macintosh® operating system is useful for students entering ARS 230 and upper-level ARS courses in the cognate. The Director of the WCC can advise students on the level of skill required for various courses.

Courses in Graphic Design

• ARS 123 - Two-Dimensional Design and Color Theory
• ARS 230 - Introduction to Graphic Design
• ARS 332 - Graphic Design: Web Design
• ARS 431 - Advanced Graphic Design: Digital Media
Total: 12 Hours

Courses in English

- EH 301 - Technical Writing

Total: 3 Hours

Courses in MIS

Choose two from list below

- IS 210 - Introduction to Computer Programming in Business
- IS 420 - Electronic Commerce
- IS 465 - Web Server and Internet Telecommunications Technology

Total: 6 Hours

Courses in Marketing

- MKT 301 - Principles of Marketing
- MKT 332 - Buyer Behavior or
- MKT 342 - Promotional Strategy

Total: 6 Hours

Additional Course

- ARS 499 - Web Seminar
Women’s Studies Minor

344 Morton Hall
(256) 824-6210
Dr. Nancy J. Finley, Director

The Women’s 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 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. While the classes included as Women’s 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 Studies than the individual courses provide on their own.

A minor in Women’s Studies consists of 21 semester hours, including one required course (WS 200), five core courses, and one elective as shown in the following table. Core courses must include at least 6 hours of humanities and 6 hours of social and natural sciences listed below. Note that 12 of the 21 semester hours must be at the 300-level or higher. A student interested in minoring in Women’s Studies should contact the director of the program for advising.

1. Required Course 3 Hours

   - WS 200 - Introduction to Women's Studies

2. Core Courses - 5 courses required from the following 15 Hours

   1. No more than 6 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. No course can be counted toward both a major and minor.
   3. WS 340 Special Topics or WS 499 Independent Study may count as core courses in various subject areas if these courses carry 3 hours credit.

   Humanities: 6 Hours

   - CM 416 - Women Orators
   - CM 345 - Media Representation
   - EH 418 - Representative Texts by Women Writers
   - EH 438 - African American Literature
   - HY 367 - Women in U.S. History
   - HY 390 - Women in Modern European History
• PHL 335 - Philosophy of Gender

Social Sciences, Health Sciences, Business, and Technology: 6 Hours

• MGT 462 - Employment Law for Managers
• PY 406 - Psychology of Women
• SOC 206 - Marriage and Family
• SOC 306 - Sociology of Gender

Approved Special Topics courses may count toward the minor.

3. Elective Course - 1 additional core course or 1 from the following: 3 Hours

• ARH 309 - Contemporary Art and Issues
• BYS 318 - Vertebrate Reproduction
• CM 250 - Interpersonal Communication

• CM 330 - Nonverbal Communication
• PY 330 - Nonverbal Communication

• EH 331 - American Literature from the Civil War to WWI
• EH 391 - Victorian Poetry and Prose
• EH 403 - Literary Criticism and Theory
• EH 493 - The Victorian Novel
• HY 365 - American Labor History
• PHL 202 - Introduction to Ethics
• PHL 303 - Contemporary Philosophy
• PSC 438 - Contemporary Political Thought

• PY 375 - Social Psychology
• SOC 375 - Social Psychology

• PY 437 - Psychobiology of Stress and Illness
• BYS 437 - Psychobiology of Stress & Illness

• SOC 105 - Introduction to Cultural Anthropology
• SOC 415 - Cultural Change
• SOC 435 - Sociology of Social Movements
• WS 340 - Special Topics
Note(s):

New courses may be added to this list when approved for inclusion by the Women’s Studies Program Advisory Committee. The Women’s Studies section for each semester’s schedule of classes lists the courses that may be counted toward the minor. Also see our website at http://www.uah.edu/womensstudies/curriculum.html. For descriptions of courses other than those with the WS prefix, see listings of individual departments.

Bachelor of Science in Nursing

Nursing, BSN

The College of Nursing offers the Bachelor of Science in Nursing degree. Classes are offered during the day and evening. The undergraduate 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 an increasingly complex health care system. In addition to focusing on essentials of nursing in the hospital, the curriculum also emphasizes community and primary care. Opportunities to provide care to diverse clients are provided. Use of technology 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 Bachelor of Science in Nursing degree are eligible to sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The American Association of Colleges of Nursing Baccalaureate Essentials is the guiding framework for this program.

For Registered Nurses

Registered nurses who have previously earned diplomas or associate degrees in nursing are admitted to the undergraduate program to meet requirements for the Bachelor of Science in Nursing degree. Prospective students are encouraged to plan their programs of study with advisors in the College of Nursing Office of Undergraduate Programs prior to enrolling in either lower division general studies (prerequisite) or upper division courses. In recognition of the multiple commitments of registered nurse students, the program is now offered via the web. Whenever possible, clinical experiences are arranged at flexible times and at sites convenient to students. The program for registered nurse students offers opportunities for full- and part-time study. Students who enroll in the full-time option may complete the nursing component of the program in one calendar year after completion of prerequisite general studies courses. Students are encouraged to attend an orientation on campus the first semester of studies to ensure success in the online upper division course of study.

The college awards 32 semester hours of validated nursing credit to each registered nurse upon successful completion of NUR 410—Transition into Professional Roles.

A RN-MSN option is available. More detailed information about opportunities for accelerated studies may be obtained from the College of Nursing Office of Graduate Programs (256) 824-6669.

Baccalaureate Program of Studies
Students completing the lower division general studies (prerequisite courses) of the program at UAHuntsville should follow the program of study outlined below. Transfer students should follow the program of study approved by the Articulation and General Studies Committee and presented under Admission as a Transfer Student. Transfer students are encouraged to complete courses equivalent to those listed below:

**Written Composition 6 Semester Hours**

- EH 101 - Freshman Composition
- EH 102 - Freshman Composition

**Humanities and Fine Arts 12 Semester Hours**

Literature (3-6 semester hours) Students must complete a 6 semester hour sequence in either literature or history with a minimum of 3 semester hours in the other discipline.

- PHL 101 - Introduction to Philosophy
- PHL 201 - Introduction to Logic
- PHL 202 - Introduction to Ethics

Fine Arts/Humanities Elective 3-6 Semester Hours

**Natural Sciences and Mathematics 23 Semester Hours**

- MA 110 - Finite Mathematics or
- MA 112 - Precalculus Algebra

- BYS 119 - Principles of Biology
- CH 101 - Introduction to Chemistry
- CH 105 - Introductory Chemistry Laboratory

- BYS 214 - Infection and Immunity
- BYS 313 - Anatomy and Physiology I
- BYS 314 - Anatomy and Physiology II

**History, Social and Behavioral Sciences 19 Semester Hours**

- SOC 100 - Introduction to Sociology
• PY 101 - General Psychology I
  History (3-6 semester hours) Students must complete a 6 semester hour sequence in either history or literature
  with a minimum of 3 semester hours in the other discipline.

• PY 300 - Psychological Statistics
• SOC 303 - Statistics for the Social Sciences

• PY 201 - Life-Span Development
  Elective History, Social and Behavioral Sciences (3-6 semester hours)

**Required for a baccalaureate degree in nursing**

The following Upper Division courses are required for a baccalaureate degree in nursing. Please note that curricular
changes may be made in the coming year. Contact the College of Nursing Office of Undergraduate Programs for the
most current information.

**For Non-Licensed (Basic) Students:**

• NUR 302 - Nursing and Health Promotion
• NUR 303 - Health Assessment
• NUR 310 - Professional Practice in Nursing I
• NUR 304 - Applied Pathophysiology Across the Lifespan
• NUR 305 - Nursing Process for Mental Health and Illness
• NUR 419 - Scholarly Inquiry in Nursing
• NUR 308 - Nursing Care of Adults with Alterations in Health I
• NUR 321 - Pharmacology in Nursing
• NUR 401 - Nursing Care of Adults with Alterations in Health II
• NUR 402 - Population Based Health Care
• NUR 403 - Family-Centered Parent-Infant Nursing
• NUR 404 - Family-Centered Nursing Care of Children
• NUR 405 - Community Health Nursing
• NUR 406 - Leadership and Management in Nursing
• NUR 407 - Professional Practice in Nursing II
• NUR 408 - Professional Practice in Nursing III Seminar

**Total semester hours to graduate with a BSN: 128**

**For Registered Nurse Students:**

• NUR 339 - Introduction to Computers in Nursing
• NUR 410 - Transition into Professional Roles
• NUR 411 - Theoretical Applications in Nursing Practice
• NUR 412 - Caring for Families, Aggregates and Populations: Theoretical Applications
• NUR 413 - Nursing Leadership in Professional Practice
• NUR 414 - Health Assessment for the Practicing Professional Nurse
• NUR 419 - Scholarly Inquiry in Nursing
• NUR 420 - Evidence Based Nursing Practice
  Nursing Electives at 300-400 level 6 Semester Hours

Total semester hours to graduate with a BSN: 128

Course Descriptions

University of Alabama in Huntsville

BIB 100 - Introduction to Library Research

CHE 197 - Computer Methods for Chemical Engineering

CHE 244 - Introduction to Chemical Engineering Systems

CHE 294 - Nature and Properties of Materials

CHE 295 - Nature and Properties of Materials Laboratory

CHE 310 - Fluid Mechanics I
CHE 342 - Transport Phenomena

CHE 344 - Chemical Engineering Thermodynamics

CHE 347 - Quantitative Modeling for Chemical Engineers

CHE 439 - Unit Operations Laboratory I

CHE 440 - Unit Operations Laboratory II

CHE 441 - Chemical Kinetics and Reactor Design

CHE 443 - Mass Transfer Operations

CHE 445 - Chemical Process Control

CHE 446 - Analysis and Design of Transport Equipment

CHE 448 - Chemical Engineering Design

CHE 449 - Introduction to Environmental Engineering

CHE 450 - Environmental Control
CHE 459 - Selected Topics in Chemical Engineering

CHE 460 - Introduction to Bioprocess Engineering

CHE 461 - Bioseparations

CHE 494 - Applied Materials Engineering

CHE 495 - Polymer Engineering

CM 250 - Interpersonal Communication

H 100 - Honors Forum

H 399 - Honors Interdisciplinary Seminar

H 498 - Honors Project Preparation

H 499 - Honors Research Project

Graduate Studies

Business Administration
202 Business Administration Building
Telephone: (256) 824-6735
Email: BusinessDean@uah.edu

Dean:
Caron H. St. John, BS, MBA, Ph.D., Professor of Management

Associate Dean:
J. Daniel Sherman, BS, MA, Ph.D., Professor of Management

Mission

The UAHuntsville College of Business Administration prepares students to lead and manage integrated and innovative organizations, creates business knowledge through rigorous research, and shares knowledge with the academic community as well as with enterprises in the public and private sectors.

Accreditation and Membership

The Bachelor of Science in Business Administration (BSBA), the Master of Business Administration (MBA), the Master of Accountancy (M.Acc.), and the Master of Science in Information Systems (MS-IS) programs offered by the College of Business Administration are accredited by AACSB International - The Association to Advance Collegiate Schools of Business.

The AACSB International is a not-for-profit corporation comprised of member organizations and institutions devoted to the promotion and continuous improvement of higher education for business administration and management. Organized in 1916, AACSB International is the premier accrediting agency for bachelor’s, master’s and doctoral degree programs in business administration and accounting.

The College is a member of the Association for University Business and Economic Research (AUBER). Organized in 1947, AUBER is the professional association of business and economic research organizations in universities.

The College is a member of the Alabama Small Business Development Consortium (ASBDC). The ASBDC provides management counseling and training to small business owners throughout Alabama.

Center for Management and Economic Research (CMER)

130 Shelby Center
Telephone: (256) 824-6990
Email: cmer@uah.edu

The center stimulates expansion of North Alabama’s economy by helping local managers define and realize growth opportunities and solve specific problems. It serves individuals and organizations through management and technical assistance, dissemination of economic and socio-economic information, and conducting research studies. Special emphasis is placed on businesses in technological fields.

Assistance areas include computer information systems, accounting, marketing, business strategy, human resource management, labor relations, organizational behavior, entrepreneurship, and organizational development.
CMER offers customized training programs for business and organizations. Training areas include microcomputer applications, accounting information systems, marketing, finance, competitive positioning, communication, strategic management, organizational design, and international business. The center conducts research studies for organizations. Typical studies include economic impact studies, benefit cost analysis, market opportunity analysis, fiscal impact analysis, and technology assessment.

**Center for the Management of Science and Technology (CMOST)**

323 Business Administration Building  
Telephone: (256) 824-6407  
Email: cmost@uah.edu

The Center for the Management of Science and Technology’s broadest goal is to improve the state-of-the-art in the management of organizations that are substantially impacted by science and technology. Specifically, CMOST is devoted to the development of new practices appropriate for the management of high technology commercial and governmental organizations. CMOST conducts research to develop new management strategies, techniques and competencies to help firms manage the high risks and uncertainties that characterize Huntsville’s high technology industry. In addition, the Center’s staff does contract research on business, management and economic problems for governmental organizations and private industry.

**NorthEast Alabama Regional Small Business Development Center**

126 Business Administration Building  
Telephone: (256) 824-6422  
FAX: (256) 824-4339  
Email: SBDC@uah.edu

The Northeast Alabama Regional Small Business Development Center (NEAR SBDC) provides assistance to small businesses and aspiring entrepreneurs. The mission of NEAR SBDC is to “Help small businesses survive and grow.” The center provides four types of assistance: business management counseling, startup counseling, training/workshops, and a resource library.

Small business owners or managers receive professional assistance and direction in operating a business profitably. This may include counseling in one or more of the following areas: financial capital, business planning, personnel, record keeping, licensing, taxes, intellectual property, government procurement, governmental regulations, marketing, commercialization, Small Business Innovation and Research programs, market research, inventory control, or how to conduct a feasibility study. Small business reference materials (books and videos) are maintained in the NEAR SBDC reference library. Small business owners and entrepreneurs may visit the center and use business planning guides, watch or check out one of more than two dozen videos on business management, or work interactively with Internet, electronic data interchange demos, and electronic commerce demos. For additional information, contact the NEAR SBDC at 126 Business Administration Building, University of Alabama in Huntsville, Huntsville, AL 35899.

**Executive Education Program**

The executive education program is designed to assist the members of the business, industry, and governmental communities in keeping abreast of changes in a complex environment. The College of Business Administration offers
an interactive blend of management educational programming ranging from one-session seminars on specific problems to a substantial sequence of classes custom tailored for corporate and governmental audiences. For more information, contact the Executive Education Program Office. Mail: BAB 202, UAHuntsville, Huntsville AL 35899. Phone: (256) 824-6736. FAX: (256) 824-6328. Email: executiv@uah.edu.

Degrees Offered

Bachelor’s. The College of Business Administration offers the Bachelor of Science in Business Administration (BSBA) degree. The BSBA encompasses majors in accounting, finance, management, marketing, and information systems.

Students may obtain a second bachelor’s degree in the College of Business Administration if they:

1. Complete, in addition to credits earned while pursuing the first degree, in residence a minimum of 25 percent of the total degree requirements for the second degree;
2. Include a new major in the second degree;
3. Satisfy the College’s general and major degree requirements in effect at the time they embark on the program leading to the second degree.

Business Administration Minors

Students from colleges other than Business Administration may select one of the minors in business administration. Students in the College of Business Administration may choose economics as a minor but may not select any of the other minors in business administration. The minor consists of at least 18 semester hours but not more than 30 semester hours in subjects available in the College of Business Administration. Students electing a minor may use the courses completed in the general education requirements as part of the required hours in a minor. For minors in business administration, ECN 142 and 143 count in the general education requirement and not in the 30 semester hour maximum in the College. Students who choose one of the minors in business administration may be able to count ECN 142 and 143 to meet their social science Area IV degree requirements. A baccalaureate program with more than 30 semester hours (or 25 percent of degree requirements) in traditional business subjects must meet the AACSB International accreditation standards for a business degree. Such a program will be reviewed by the Dean of the College of Business Administration, or the dean’s designee, to determine if it meets the AACSB International standards.

The approved business administration minors are shown below. The minor program must have the approval of an undergraduate advisor, Room 102, Business Administration Building, (256) 824-6024.

Economics as a Second Area of Study

Students majoring in elementary education may choose economics as their second area of study. The area of study requires 18 hours of economics and finance courses and the prior approval of the Chair of the Department of Economics and IS.

Policies, Procedures and Assistance

Course Numbers

Course numbers are coded by prefixes as follows:
Admission as a Freshman

Entering UAHuntsville freshmen interested in business administration must meet the general entrance requirements of the University. Students who intend to pursue the BSBA degree should read carefully the Admissions Information section of the catalog.

Students who have had inadequate high school preparation or who are placed in certain lower-level classes because of the results of placement tests may have to take one or more of the following courses:

- **EH 003** Basic English no credit
- **MA 004** Basic Algebra no credit
- **MA 033** High School Geometry no credit

These courses carry no academic credit but will appear on transcripts of students who complete the courses.

Admission as a Transfer Student

Transfer students seeking admission to UAHuntsville should read carefully the “Admissions Information” section of the catalog. Students planning to transfer into the College of Business Administration from a two or four year institution to obtain the BSBA are advised to follow the transfer program outlined below:

- **Area I** English Composition 6 hrs
- **Area II** Humanities and Fine Arts:
  - Literature 6 hrs*
  - Fine Arts 3 hrs
  - Humanities Elective 3 hrs
Area III  
Natural Sciences and Mathematics
- Laboratory Science: 8 hrs
- Precalculus Algebra: 3 hrs

Area IV  
History, Social and Behavioral Sciences
- History: 3 hrs
- Principles of Micro and Macro Econ.: 6 hrs
- Psychology, Sociology, Anthropology: 3 hrs

Area V  
Business
- Business Statistics: 6 hrs
- Legal Environment of Business: 3 hrs
- Financial and Managerial Accounting: 6 hrs
- Microcomputer Applications: 3 hrs
- Business Calculus: 3 hrs

*Must take a 6 hour sequence in any literature.

The specific credit for work done at other institutions that will apply toward the BSBA degree is determined by the College’s Office of Academic Assistance. Allowance of transfer credit by the Office of Admissions and Records does not necessarily mean that such credit will be applied toward a BSBA degree. All inquiries concerning the applicability of credit should be made to the College’s Office of Academic Assistance (256-824-6024).

Credit for business administration courses taken in schools with programs accredited by the AACSB International – The Association to Advance Collegiate Schools of Business is transferable to UAHuntsville. Credit for courses taken in programs without AACSB accreditation may be accepted with validation or approval of the Associate Dean.

Course work taken at a junior college after a student has earned more than 64 semester hours of credit may not be accepted for transfer. Courses taken at the lower-division at another institution that are upper-division courses at UAHuntsville will be accepted for transfer only after successful validation.

**Admission to the Upper-Division**

Pre-Business Classification. All undergraduate students entering the College of Business Administration are admitted with a pre-business classification (code L). Regular students remain in this classification until they are admitted to the upper division of the College of Business Administration. Any request for deviation from these requirements must be petitioned through the College’s Office of Academic Assistance. Business Administration students not admitted into the upper division may not attempt any business course numbered above 299. To have the pre-business classification changed students should apply through the College’s Office of Academic Assistance for admission to the upper division of the College.
Special Student Classification. Individuals admitted to the University as conditional/probational must have their status changed to regular through the Office of Student Records and complete all lower-division admission requirements before applying for admission to the upper division of the College and choosing a major. Special students may not attempt upper-division business courses.

Admission Standards. Admission to the upper-division of the College of Business Administration is available to students who have:

1. Completed 62 semester hours comprising the lower-division requirement.
2. Earned a minimum grade of “C” in both English Composition courses (EH 101 and 102).
3. Earned a minimum average GPA of 2.0 out of 4.0 (“C” average) for the 18 hours comprising the pre-professional business administration core.

Note: For degree-seeking students in the College of Business Administration, admission to the upper-division is a prerequisite for all upper-division courses (numbered 300-499) in the College. Degree-seeking students in the College registering in upper-division business courses without completing the prerequisites and without being admitted to the upper-division will be administratively withdrawn from those classes.

Student Advisement and Enrollment

The College’s Office of Academic Assistance is a student’s point of contact for information concerning possible majors, declaring a major, transfer credit and degree requirements. First-year students are required to plan their course selection with an academic advisor in the Office of Academic Assistance (Room 102; BAB, telephone 256-824-6024).

All College of Business Administration freshman and sophomore students must have their registration approved by the Office of Academic Assistance. Juniors and seniors who have met the following requirements do not need an advisor’s signature:

1. A formal declaration of major (signed by the academic advisor and the student) is on file in the UAHuntsville Records Office.
2. Satisfactory completion of the lower-division general education requirements and the preprofessional business administration core curriculum.
3. Attained a minimum GPA of 2.0 out of 4.0 (“C” average) in the combined lower-division general education requirements and the pre-professional business administration core curriculum.

Each student is responsible for registering for all required courses in their proper sequence and for fulfilling all requirements for admission and graduation.

Types of Advising Assistance Available

The focus of advising in the College of Business Administration is to help students progress toward their educational objectives. Advising is designed to provide assistance where desired and appropriate. Students, especially those nearing graduation, are encouraged to make full use of the advising system. The College’s advising system offers:

Transcript Evaluation. Two aspects of transcript evaluation affect students: (1) Evaluation of course work to be transferred to UAHuntsville for degree credit and (2) the continuing evaluation of completion of graduation requirements. The evaluation of transfer work is initially accomplished by the University’s Office of Admissions. Evaluation of business and economics course work is conducted by the Office of Academic Assistance, working with various departments within the College. The College’s Office of Academic Assistance also keeps a current record of each student’s progress at UAHuntsville.

Schedule Building. Schedule building is the determination of specific courses the student should take in a given semester. Students should refer to the UAHuntsville Schedule of Classes on the Web and the undergraduate catalog in
consultation with the advisor to determine a specific course of study. Selection of specific course sections and times is
the student’s responsibility.

Program Planning. Students are encouraged to outline an entire plan of study early in their academic career. This
program planning activity is provided by the College’s Office of Academic Assistance and includes suggested model
programs for each of the major fields of study offered by the College.

Referrals. Students seeking career guidance, personal counseling or other types of assistance will be directed to the
appropriate university office by the Office of Academic Assistance.

Probation and Dismissal

Students are placed on probation at the end of any semester in which they do not attain a cumulative GPA necessary for
satisfactory progress. For more detail on the process, see Academic Probation and Suspension. When dismissed, the
student must petition the College of Business Administration for readmission. Application should be made in the
Student Records Office, University Center.

Residence Requirement

At least 12 of the last 18 semester hours of a student’s program and a minimum of 32 semester hours of the total degree
program must be completed at UAHuntsville. For BSBA students, the hours taken in residency must include at least 50
percent of the BSBA program (core curriculum and major option) including a minimum of 12 hours in the major option
and MGT 499, Competitive Strategy. Students who are required to take additional courses within the College of
Business Administration in order to meet the residence requirement may be required to complete more than 128
semester hours in order to graduate.

Cooperative Education Program

The College of Business Administration participates in the University’s Cooperative Education Program. The program
is designed to provide relevant paid employment experiences that integrate, complement and enhance the student’s
academic program. The students are placed in co-op positions in a variety of business settings, including government
agencies, financial institutions, social agencies, accounting firms, entrepreneurial companies and many others. Co-op
placements must be approved by the student’s faculty sponsor. Participation in the co-op program requires completion
of designated entry-level courses. The program is open to both undergraduate and graduate students in business. More
information is available from the business coordinator in the Office of Cooperative Education.

Internship Program Guidelines

The internship program is designed to provide professional work experience for students in a field relevant to their
major. The program consists of 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. The course grade will be given on a
satisfactory (S) unsatisfactory (U) basis. The prerequisites are junior standing, 9 semester hours of upper-division work
in the student’s discipline, and approval of the department chair.

In addition to making a judgment on the merit, quality, and relevance of the proposed internship program, the chair will
require the following academic prerequisites prior to approval:

1. Completion of sufficient coursework in the major relevant to the internship project
2. A minimum GPA of 2.75 in all courses attempted in the College
3. Completion of at least 15 semester hours at UAHuntsville.

An internship may be elected only once, i.e. a maximum of 3 semester hours toward the BSBA degree. The internship may count as an elective within the major. Internships include the following: ACC 495, FIN 495, MGT 495, IS 495, MKT 495, MKT 496, and MSC 495.

The cooperative education program is different from an internship. An internship differs from cooperative education based on the fact that the experience is for the duration of a single semester. Internships generally require 120 hours of on-site experience for the three credit hour course. For a 15 week semester this averages approximately 8 hours per week.

Interested students should contact the office of Academic Assistance in Room 102 BAB.

### Grading

Business administration courses are not offered with a pass/fail grading option. In addition, majors in the College of Business Administration are not eligible for the pass/fail option for general education requirement courses, lower division (pre-professional) core courses, upper division core courses or major courses.

### Catalog Requirements and Changes

The College of Business Administration reserves the right to modify curricula and specific courses of instruction including course prerequisites, to alter requirements for graduation and to change the majors to be awarded at any time the College may determine. Such changes may be applicable to either prospective or currently enrolled students.

All College of Business Administration students enter the College under all university and College policies then in effect. Each student is responsible for meeting all catalog requirements for graduation, including taking courses in the proper sequence as shown in the catalog.

Due to rapid advancement in knowledge, a student is permitted seven years from the original date of entry to complete a four-year curriculum, after which time a re-evaluation of all work previously taken may be required. Each time a student changes a major or option, a re-evaluation of all work already taken is done in terms of that particular program’s requirements. It may occasionally be necessary to revise the curriculum for the BSBA degree. However, any student may graduate under the catalog in effect at the time he or she entered the university, provided that all degree requirements are satisfied within seven years from the day of admission.

Any deviations from curricular and other College requirements (for example, substitution of courses) must be approved in writing in advance of the deviation. Such changes must be approved by the student’s department chair.

### Majors in the B.S.B.A. Degree

The College offers the following majors: accounting, finance, management, marketing, and information systems.

- **BLS 211 - Legal Environment of Business**
- **BLS 400 - Law, Ethics and Business**
BLS 411 - Business Law for Accountants

CM 499 - Senior Project Management

Accounting and Finance

350 Business Administration Building
Telephone: (256) 824-6159
Email: burnettj@uah.edu

Professor Evans; Burnett (Chair); Associate Professors Baldwin, Rose-Green and Xing; Emeritus Associate Professor Bryson; Assistant Professor Allport and Gamble; Clinical Assistant Professor Hickman; Lecturer Brol, Fowler.

Mission

The Department of Accounting and Finance provides academically rigorous programs in accounting 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 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 to 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 a 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. The Alabama State Board of Public Accountancy requires 150 semester hours of credit in order to sit for the CPA examination. The College offers a Master of Accountancy (MAcc) degree that meets or exceeds requirements for professional accounting certification.

The Department of Accounting and Finance offers four accounting concentrations for the BSBA degree: General Accounting; CPA Preparatory with an emphasis in Assurance and Financial Reporting; CPA Preparatory with an emphasis in Taxation; and Federal Contract Accounting. The CPA concentrations may be used as part of a 4 + 1 program (4 years of undergraduate study plus 1 year of graduate study) ending with the Master of Accountancy (MAcc). The 4+1 program also provides the graduate with enough graduate-level hours in accounting to teach accounting at the community college and university levels. The accounting major is offered during the day and during the evening.

Finance
Finance careers vary widely in today’s complex, global economy. The finance curriculum equips graduates with the modern analytic principles of the discipline that prepare them to function in a wide variety of institutional settings. The 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 and all its personnel, 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.

Students considering the professional certification examinations upon graduation, such as the Certified Cash Manager, Certified in Financial Management, the Certified Management Accountant (CMA), Certified Financial Planner, or Chartered Financial Analyst, may need course work beyond the minimum requirements for the BSBA degree. Students are encouraged to identify the special requirements early in their academic careers.

The Department of Accounting and Finance offers four finance concentrations for the BSBA degree: General Finance; Corporate Finance; Investments and Financial Institutions; Banking and Financial Institutions; and Federal Contract Management. The finance major is offered only during the day.

**ACC 211 - Financial Accounting**

**ACC 212 - Management Accounting**

**ACC 307 - Accounting Information Systems**

**ACC 310 - Intermediate Financial Accounting I**

**ACC 311 - Intermediate Financial Accounting II**

**ACC 313 - Individual and Small Business Income Taxes**

**ACC 413 - Corporation, Partnership, and Estate Taxes**

**ACC 414 - Cost Accounting**
ACC 415 - Advanced Financial Accounting

ACC 417 - Accounting for State & Local Governments and Non-Profits

ACC 420 - State and Local Taxation

ACC 431 - Principles of Auditing

ACC 432 - Advanced Auditing

ACC 433 - Forensic Accounting

ACC 440 - Basic Governmental Contract Accounting

ACC 441 - Advanced Government Contract Accounting

ACC 470 - Seminar in Contemporary Accounting Issues

ACC 480 - Professional Certification

ACC 490 - Special Projects

ACC 495 - Internship in Accounting
FIN 100 - Personal Financial Planning

FIN 301 - Principles of Finance

FIN 352 - Money and Banking

FIN 370 - Commercial Bank Management

FIN 375 - Financial Institutions

FIN 378 - Intermediate Corporate Finance

FIN 400 - Investment Practicum

FIN 431 - Advanced Corporate Finance

FIN 454 - International Finance

FIN 460 - Investments

FIN 461 - Portfolio Management

FIN 490 - Special Projects
FIN 495 - Internship in Finance

Economics and Information Systems

333 Business Administration Building
Telephone: (256) 824-6590
Email: wilhitea@uah.edu

Professors Wilhite (Department Chair), Gupta (Eminent Scholar), Schnell; Associate Professors Allen, Li, Mok, Patnayakuni; Assistant Professors Hartono, Liu, Orman; Clinical Assistant Professor Ye.

Mission

The Department of Economics and Information Systems provides academically rigorous courses to develop critical thinking skills. Our major in the Information Systems emphasizes the application of theory and skills in scientific, technological, and traditional business environments. The departmental faculty develops and disseminates knowledge related to economics and information systems concepts and practices.

ECN 142 - Principles of Macroeconomics

ECN 143 - Principles of Microeconomics

ECN 340 - Macroeconomic Analysis

ECN 345 - Microeconomic Analysis

ECN 352 - Money and Banking

ECN 406 - Sports Economics

ECN 454 - International Economics
ECN 470 - Seminar in Economics

ECN 475 - Economics of Labor Markets and Human Resources

ECN 490 - Special Projects

IS 101 - Introduction to Microcomputing

IS 102 - Spreadsheet Applications

IS 103 - Spreadsheet Applications II

IS 104 - Word-processing I

IS 105 - Word-processing II

IS 106 - Presentation Graphics

IS 108 - Database Applications

IS 110 - Introduction to the Internet

IS 112 - Introduction to PC UNIX
IS 114 - Web Publishing Using HTML

IS 146 - Computer Applications in Business

IS 210 - Introduction to Computer Programming in Business

IS 301 - Information Systems in Organizations

IS 310 - Advanced Computer Programming in Business

IS 340 - Databases for Management

IS 350 - Advanced Data Bases for Management

IS 400 - Business Intelligent Systems

IS 401 - Introduction to Information Assurance

IS 416 - Supply Chain Management and E-Business

IS 420 - Electronic Commerce

IS 422 - Supply Chain Management Systems
IS 440 - Web Programming and Database Integration

IS 460 - Telecommunications and Networking

IS 463 - Computer Forensics

IS 465 - Web Server and Internet Telecommunications Technology

IS 470 - Management of the Microcomputer Environment

IS 477 - Network Defense and Operating Systems

IS 480 - Current Topics in Management Information Systems

IS 490 - Special Projects

IS 495 - Internship in Information Systems

IS 497 - Information Systems Design and Implementation

IS 499 - Systems Development Project

Management and Marketing
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. The departmental faculty also develops and disseminates knowledge related to the management of organizations, personnel and exchange relationships.

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 or governmental organizations. Students may elect one of four potential concentrations.

The Human Resource Management concentration focuses on the various functions of personnel administration, in addition to organizational behavior and labor relations. This concentration would be appropriate for students planning to enter positions as a personnel staff specialist, training director, wage and salary specialist, employment manager, benefits administrator, and industrial relations supervisor.

The Acquisition Management concentration focuses the management of government contracts in the aerospace and defense industries. 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 with the Federal government or in similar positions with government contractors.

The Supply Chain Management concentration focuses on transportation, logistics, inventory management, distribution operations, information systems as applied to supply chain integration, and strategic decision making in the management of a firm’s supply chain. The concentration is designed to prepare students for careers with industrial firms in the supply chain function or for public sector careers in military logistics with the Department of Defense.

The fourth concentration is in General Management. This 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 entrepreneurial careers in small business or careers in international business may wish to plan their program of study to accommodate such career goals.

Marketing

A major in marketing allows those students with interests in developing and promoting products and services to gain the knowledge and skills needed to pursue careers in marketing management, product management, marketing research, advertising, sales, internet marketers, supply chain management and acquisition. Since marketing is such a diverse area, the curriculum has been divided into three concentrations.
The marketing management concentration focuses on the marketing activities involved in the producer-customer exchange process. In order for businesses to successfully complete this process, they need to consider things such as buyer behavior, channels of distribution, promotional activities, product development and relationship management. Marketing managers also conduct market research to investigate customer needs and determine appropriate marketing strategies. Marketing managers are responsible for the total development process for a firm’s products and services. With an emphasis on a high technology environment, this concentration prepares students for careers in a variety of business and public sector organizations.

The supply chain management concentration involves all areas of the supply chain, from planning to distribution. The supply chain concentration prepares marketing students 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 Acquisition Management concentration focuses on activities and programs designed to obtain from suppliers the services and materials necessary to produce products and services. The program focuses on the management of government contracts in the aerospace and defense industries. It includes contract administration, cost and price analysis, contract negotiation, and government contract law. This concentration prepares marketing students for entry level professional positions in acquisition with the Federal government, government contractors and traditional industries.

MGT 100 - Introduction to Business

MGT 101 - Introduction to Entrepreneurship

MGT 301 - Managing Organizations

MGT 320 - Career Development

MGT 361 - Organizational Behavior

MGT 362 - Management and Labor Relations

MGT 363 - Human Resource and Labor Relations Management
MGT 401 - Introduction to Contract Management

MGT 402 - Contract Evaluation and Award

MGT 403 - Contract Pricing and Cost Analysis

MGT 404 - Negotiation Techniques

MGT 405 - New Venture Strategies

MGT 406 - Government Contract Law

MGT 410 - Leadership, Personal Development and Organizations

MGT 411 - Supply Chain Management

MGT 440 - Small Business Counseling

MGT 450 - International Business

MGT 460 - Employee Staffing and Development

MGT 461 - Strategic Compensation Management
MGT 462 - Employment Law for Managers

MGT 470 - Special Topics in Management

MGT 490 - Special Projects

MGT 495 - Internship in Management

MGT 499 - Competitive Strategy

MKT 301 - Principles of Marketing

MKT 315 - Sales Management and Professional Selling

MKT 316 - Retailing Policy and Management

MKT 325 - Legal and Ethical Issues of Marketing on the Internet

MKT 332 - Buyer Behavior

MKT 342 - Promotional Strategy

MKT 343 - Marketing Research Design
MKT 344 - Marketing Research Applications

MKT 345 - Market Channel Structure and Strategy

MKT 400 - Strategic Issues in Logistics

MKT 405 - New Venture Strategies

MKT 410 - Transportation and Logistics

MKT 414 - Marketing Emerging Technologies

MKT 415 - International Marketing

MKT 420 - Services Marketing

MKT 465 - New Venture Challenge

MKT 470 - Marketing in an Electronic Environment

MKT 475 - Advanced Marketing Seminar

MKT 480 - Marketing Management
MKT 490 - Special Projects

MKT 495 - Internship in Marketing

MKT 496 - Internship in E-Business

MSC 287 - Business Statistics I

MSC 288 - Business Statistics II

MSC 385 - Production/Operations Management

MSC 413 - Contemporary Topics in Supply Chain Management

MSC 470 - Special Topics in Management Science

MSC 490 - Special Projects

MSC 495 - Internship in Management Science

Engineering

102 Engineering Building
Telephone: (256) 824-6474
Email: dean@eb.uah.edu
Web page: http://www.eng.uah.edu
Mission

The mission of the College of Engineering at The University of Alabama in Huntsville is to provide students with a quality educational experience that includes engineering theory, design, experimentation and application. The College is dedicated to achieving national and international recognition for excellence in engineering education, research and service.

Background

Engineering is the profession that translates scientific thought into reality. By combining synthesis, analysis, and design in creative and innovative modes, the engineer produces systems, processes, and products for the benefit of humankind. Those who desire to be part of this important effort can gain entry into the engineering profession by attending UAHuntsville. The UAHuntsville College of Engineering is located in an urban area and also in the state’s high technology area. 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 a high quality faculty, affords maximum growth potential for those desiring to pursue a career in engineering. The College of Engineering is strongly committed to the advising of both undergraduate and graduate engineering students.

Laboratory fees have been eliminated from engineering courses. An equipment fee (presently $35.00 per semester hour) is assessed on all engineering courses. The proceeds are earmarked for the upgrading of engineering laboratories, and for the acquisition, maintenance, repair and replacement of instrumentation and equipment to support the various engineering programs.

Accreditation

The chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, and optical engineering options, together with the aerospace engineering option in mechanical engineering, are accredited by ABET, Inc. The degree awarded is the Bachelor of Science in Engineering (BSE).

Engineering Student Affairs
The College of Engineering provides freshman, sophomore, and transfer students with academic counseling through the Engineering Student Affairs (ESA) Office located in EB 157. The ESA is the engineering student source for all advising and registration guidance until achieving the junior academic status in engineering curriculum hours earned. At this point, the student (and the respective ESA student record) is transferred to the appropriate engineering program for advising, monitoring, and mentoring purposes. The ESA Office maintains a web page of advising information for all UAHuntsville engineering students. This page may be accessed through the College of Engineering web page.

A file is maintained in ESA for each engineering student who is classified as a freshman or a sophomore. Each file contains a Program Check Sheet that identifies all academic courses required for the BSE degree in the chosen option. The Check Sheet is utilized for recording student progress toward the degree. A flowchart of all courses (including prerequisites) required for the degree is available to assist in student advisement. Academic files are also maintained and include records of grade changes, petition outcomes, copy of disciplinary actions, approved course substitutions, etc. The engineering undergraduate transcripts, together with supporting material, provide evidence that the advising and transfer processes and procedures are working.

### Degrees and Programs

The College of Engineering offers the BSE degree with options in: aerospace engineering (an option in mechanical engineering), chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, and optical engineering. The undergraduate engineering programs are built around a core consisting of courses in mathematics, the physical sciences, humanities, and engineering. Students then take additional engineering courses in the areas of their specializations. The net result is that at UAHuntsville, engineering students first develop breadth in important fundamental areas and then depth in their particular field of specialization. This provides an added dimension to UAHuntsville engineering graduates that enhances their professional performance. The UAHuntsville engineering student is also able to obtain "real world" engineering experience through the Cooperative Education Program or by part-time employment with the many governmental and industrial employers in Huntsville.

Graduate degrees offered include: the Master of Science in Engineering, Master of Science in Operations Research, Master of Science in Software Engineering, and the Doctor of Philosophy. Interaction with the high technology area of Huntsville strongly enhances the high quality engineering graduate programs and, thereby, offers the candidate a degree that has added significance.

When desirable, as evidenced from continuous studies, the College of Engineering may modify its curricula and specific courses of instruction, alter requirements for admission or for graduation, and change degrees to be awarded.

### Dual Degree Agreement

The University of Alabama in Huntsville College of Engineering has a dual degree agreement with Oakwood College in Huntsville. Under this agreement a student spends approximately three years at Oakwood College and approximately two years at UAHuntsville. Upon completion of all requirements, the student will be awarded the BSE degree from UAHuntsville in one of the following areas: aerospace engineering option in mechanical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, or optical engineering. The student will also receive the Bachelor of Science in Applied Mathematics degree from Oakwood College. Students wishing to pursue a degree under this agreement should contact the Mathematics and Computer Science Department at Oakwood College.

### Minors and Clusters
Engineering students wishing to obtain a minor in addition to their engineering major may do so in any program that provides the courses for a minor. Information on minors can be obtained from the respective program providing the minor.

Non-engineering students who wish to obtain an engineering cluster may do so in the following areas: circuits/digital electronics, electrical systems, music technology, mechanical engineering, and industrial and systems engineering. Information on engineering clusters can be obtained from the non-engineering student’s advisor.

**Course Numbers**

Course numbers are coded for engineering by prefixes as follows:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering in Mechanical Engineering</td>
<td>MAE</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>CHE</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>CE</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>CPE</td>
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<tr>
<td>Electrical Engineering</td>
<td>EE</td>
</tr>
<tr>
<td>Industrial and Systems Engineering</td>
<td>ISE</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>MAE</td>
</tr>
<tr>
<td>Optical Engineering</td>
<td>OPE</td>
</tr>
</tbody>
</table>

**Prerequisites**

The College of Engineering requires, after matriculation, that a grade of C- or better be earned in each course that serves as a prerequisite to any course applied toward completing BSE degree requirements. If a grade of less than C- is received in a course taken at UAHuntsville which is a prerequisite course, the course must be repeated and a grade of C- or better earned BEFORE a student enrolls in the subsequent course. A student not satisfying this requirement will be suspended from the College of Engineering. The student must petition the College of Engineering Academic Progress Committee through the Engineering Student Affairs Office in order to be readmitted.

**CPE 497 - Internship in Engineering**

**EE 497 - Internship in Engineering**
Chemical and Materials Engineering

130 Engineering Building
Telephone: (256) 824-6810
Email: che@uah.edu

Degree: Bachelor of Science in Engineering

Professors Chen (Acting Chair), Cerro, Chittur, Smith, Williams; Associate Professors Banish, Weimer.

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.

Mission

The Department of Chemical and Materials Engineering is dedicated to developing and maintaining undergraduate and graduate programs that educate students in the safe control and manipulation of matter in industrially important chemical and materials systems. The faculty will continue to educate students and maintain its programs by providing intellectual leadership, innovative teaching, university and community service, while conducting internationally recognized research. Undergraduate and graduate programs within the department are continuously refined based on national standards and are designed to encourage interdisciplinary education. Research objectives focus on technology important to the further development of the university, the community, the state of Alabama, and the nation.

CHE 294 - Nature & Properties of Materials

CME 497 - Internship in Engineering
Civil and Environmental Engineering

S201 Technology Hall
Telephone: (256) 824-6854
Email: cee@eng.uah.edu

Degree: Bachelor of Science in Engineering

Professors Toutanji (Chair), Cruise, Karbhari, Leonard; Associate Professors Anderson, Ashour; Lecturer Al-Hamdan.

Civil engineers are involved in many aspects of modern life, such as structural engineering, transportation planning, environmental systems, and geotechnical analysis. The modern civil engineer uses traditional design and analysis methods as well as advanced experimental and computational techniques. At the University of Alabama in Huntsville, students are exposed to all of these areas of civil engineering and introduced to techniques that will make them competent practicing professional engineers. The Bachelor of Science in Engineering degree from the Civil and Environmental Engineering Department at UAHuntsville can be obtained by completing either a broad civil engineering curriculum or by specializing in structural, transportation, or environmental engineering. The civil engineering curriculum consists of general engineering classes (required of all engineering students), the civil engineering core, and the civil engineering concentration selected.

The undergraduate structural engineering stem at UAHuntsville provides students with a strong background in many aspects of structural analysis, foundations, reinforced concrete, and advanced structural design. The student may take additional courses in such areas as advanced concrete design, advanced cementitious and composite materials, experimental mechanics, and finite element methods.

The undergraduate environmental engineering concentration provides an education necessary for many aspects of environmental management and remediation. Within the framework of the program, students will be introduced to many topics, including water quality, atmospheric pollution, environmental systems, and environmental sampling.

The transportation engineering concentration provides students with the skills necessary to tackle tomorrow’s data 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.

CE 101 - Prelude to Civil Engineering

CE 111 - Civil Engineering Graphics

CE 271 - Statics
CE 272 - Dynamics

CE 284 - Surveying

CE 321 - Transportation Engineering and Design

CE 370 - Mechanics of Materials

CE 372 - Soil Mechanics

CE 373 - Soil Mechanics Lab

CE 380 - Civil Engineering Materials

CE 381 - Structural Analysis I

CE 384 - Advanced Surveying

CE 411 - Introduction to Geographical Information Systems

CE 420 - Urban Transportation Planning

CE 422 - Traffic Engineering Design
CE 441 - Hydraulic Engineering Design

CE 449 - Introduction to Environmental Engineering

CE 455 - Water Quality Laboratory

CE 456 - Water Quality Control Processes

CE 457 - Hydrology

CE 458 - Environmental Engineering Design

CE 459 - Selected Topics in Civil Engineering

CE 461 - Vibration of Elastic Systems

CE 471 - Advanced Soil Mechanics

CE 472 - Soil Dynamics

CE 473 - Earth Structures Engineering

CE 474 - Applied Mechanics of Solids
CE 477 - Experimental Techniques in Solid Mechanics

CE 481 - Structural Analysis II

CE 483 - Reinforced Concrete Design

CE 484 - Steel Design

CE 485 - Foundation Engineering

CE 487 - Bridge Design

CE 498 - Civil Engineering Design I

CE 499 - Civil Engineering Design II

CE 499L - Laboratory Component of Civil Engineering Design II

CEE 497 - Internship in Engineering

Electrical and Computer Engineering

272 Engineering Building
Telephone: (256) 824-6316
Email: eceinfo@ece.uah.edu
Degree: Bachelor of Science in Engineering

Distinguished Professors Johnson, Singh; Professors Adhami, Boykin, Fork, Ho, Jarem, Kulick, Lindquist (chair), Milenkovic, Shen, Shtessel, Stensby, Wells; Professor Emeritus Audeh. Associate Professors Coe, English, Gaede, Guo, Joiner, Jovanov, Pan, Yoo; Assistant Professor; Lecturer Bowman, Corsetti, Hite; Adjunct Professors Berinato, Budge.

Mission

The mission of the Electrical and Computer Engineering Department is to develop and maintain high quality undergraduate and graduate programs in electrical, computer, and optical 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.

Engineering Clusters in ECE

The ECE Department offers three clusters that contain a minimum of 21 credit hours in ECE courses. The request for a cluster is initiated with the non-engineering student’s advisor.

Electrical Systems: EE 100, 213, 214, 313, 315, 382, 383, 384, 425

Double Majors in ECE

The ECE Department provides the opportunity for a double major with a primary major in CPE, EE, or OPE, and a distinctly different secondary major selected from EE, OPE, or CPE. None of the secondary major courses are permitted as primary major electives. The request for a double major should be submitted to the ECE Information/Advisory Office. Listed below are the possible double major combinations.

CPE-EE: 307, 313, and 3 courses from EE 425, 426, 424, or 447.
OPE-EE: EE 416, 424, 425, 494 and either 246 or 436.

Computer Engineering Option

The Department of Electrical and Computer Engineering offers a four-year program leading to a Bachelor of Science in Engineering degree with specialization in computer engineering. The purpose of the program is to produce a broadly educated individual, who qualifies as a professional in the analysis, design and application of computer systems. A broad background in engineering is developed through the engineering core curriculum and further courses from electrical and computer engineering. The program’s focus on computer engineering is developed through a blend of courses in computer engineering and computer science. The graduate computer engineer will be professionally qualified in a number of technical specialties that include computer architecture, embedded systems, interface design, communications and networking, and software engineering. In professional life, the computer engineer considers carefully the role of the engineer in dealing with a broad spectrum of commercial, legal, and ethical issues.
CPE 112 - Introduction to Computer Programming in Engineering

CPE 112L - Laboratory Component of Introduction to Computer Programming

CPE 212 - Fundamentals of Software Engineering

CPE 321 - Computer Organization

CPE 323 - Introduction to Embedded Computer Systems

CPE 323L - Laboratory Component of Microcomputers

CPE 353 - Software Design and Engineering

CPE 381 - Fundamentals of Signals and Systems for Computer Engineers

CPE 412 - Introduction to Parallel Programming

CPE 422 - Advanced Logic Design

CPE 422L - Laboratory Component of Advanced Logic Design

CPE 423 - Hardware/Software Co-Design
CPE 426 - Modeling, and Synthesis

CPE 427 - VLSI Design I

CPE 427L - Laboratory Component of VLSI Design I

CPE 428 - VLSI Design II

CPE 428L - Laboratory Component of VLSI Design II

CPE 431 - Introduction to Computer Architecture

CPE 434 - Operating Systems

CPE 435 - Operating Systems Laboratory

CPE 436 - Internals of a Modern Operating System

CPE 438 - Real Time and Embedded Systems

CPE 448 - Introduction to Computer Networks

CPE 448L - Laboratory Component of Introduction to Computer Networks
CPE 449 - Introduction to Information Assurance Engineering

CPE 449L - Laboratory Component of Introduction to Information Assurance Engineering

CPE 453 - Senior Software Studio

CPE 461 - Translation Systems

CPE 490 - Special Topics in Computer Engineering

CPE 495 - Computer Engineering Design I

CPE 496 - Computer Engineering Design II

CPE 499 - Project in Computer Engineering

EE 100 - Fundamentals of Computer, Electrical and Optical Engineering

EE 100L - Laboratory Component of Concepts in Digital Signals and Systems

EE 202 - Introduction to Digital Logic Design

EE 203 - Digital Logic Design Lab
EE 213 - Electrical Circuit Analysis I

EE 214 - Electronic Measurement Laboratory

EE 305 - Electronics Devices and Design Laboratory

EE 307 - Electricity and Magnetism

EE 310 - Solid State Fundamentals

EE 313 - Electrical Circuit Analysis II

EE 315 - Introduction to Electronic Analysis and Design

EE 321 - Computer Organization

EE 382 - Analytical Methods for Continuous Time Systems

EE 383 - Analytical Methods for Multivariable and Discrete Time Systems

EE 384 - Digital Signal Processing Laboratory

EE 401 - Digital Signal Processor Architectures
EE 410 - Selected Topics in Electrical Engineering

EE 411 - Electric Power Systems

EE 412 - Senior Design Project in Electrical Engineering

EE 414 - Analog and Digital Filter Design

EE 416 - Electronics II

EE 420 - Random Signals and Noise

EE 422 - Advanced Logic Design

EE 422L - Laboratory Component of Advanced Logic Design

EE 423 - Communications Systems and Simulation with Laboratory

EE 424 - Introduction to Data Communication Networks

EE 425 - Introduction to Control and Robotic Systems

EE 426 - Communication Theory
EE 427 - VLSI Design I

EE 427L - Laboratory Component of VLSI Design I

EE 428 - VLSI Design II

EE 428L - Laboratory Component of VLSI Design II

EE 436 - Digital Electronics

EE 437 - Electronics Manufacturing Processes

EE 447 - Electromagnetic Engineering

EE 451 - Optoelectronics

EE 453 - Laser Systems

EE 454 - Optical Fiber Communications

EE 494 - EE Design Projects

OPE 441 - Optical Systems Design
OPE 442 - Interference and Diffraction

OPE 451 - Optoelectronics

OPE 453 - Laser Systems

OPE 454 - Optical Fiber Communications

OPE 456 - Photonics Laboratory

OPE 459 - Optical Engineering Design I

OPE 460 - Optical Engineering Design II

Industrial and Systems Engineering and Engineering Management

N143 Technology Hall
Telephone: (256) 824-6256
Email: ise@uah.edu

Degree: Bachelor of Science in Engineering

Professors Componation, Farrington, Swain (Chair), Wyskida; Associate Professors Gholston, Messimer, Utley; Research Professor Petty; Assistant Research Professors Benfield, Fortune, Harris; Adjunct Professors Safie; Adjunct Associate Professor Thomas; Adjunct Assistant Professor Fogle

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.
Vision

To achieve a national reputation for a curriculum that integrates state-of-the-art concepts of waste elimination, variability reduction and systems thinking, and develop nationally recognized research programs in team development, designing complex systems, process improvement frameworks, and transportation systems.

ISE 124 - Introduction to Industrial & Systems Engineering

ISE 321 - Engineering Economy

ISE 324 - Work Design

ISE 327 - Management Systems Analysis

ISE 340 - Operations Research

ISE 378 - Materials and Manufacturing Processes

ISE 390 - Probability and Engineering Statistics I

ISE 391 - Probability and Engineering Statistics II

ISE 402 - Industrial and Organizational Psychology

ISE 403 - Human Factors Psychology
ISE 423 - Statistical Quality Control

ISE 426 - Design and Analysis of Experiments

ISE 428 - Systems Analysis and Design I

ISE 429 - Systems Analysis and Design II

ISE 430 - Manufacturing Systems and Facilities Design

ISE 433 - Production and Inventory Control Systems

ISE 437 - Electronics Manufacturing Processes

ISE 439 - Selected Topics in ISE

ISE 447 - Introduction to Systems Simulation

**Mechanical and Aerospace Engineering**

N274 Technology Hall  
Telephone: (256) 824-6154  
Email: mae@uah.edu  
Degree: Bachelor of Science in Engineering  

Distinguished Professors Chung, Wu (emeritus); Professors Coleman, Frederick, Frendi (Chair), Gilbert, Karr (emeritus), Wallace, Wessling; Associate Professors Landrum, Lin, Moser, Zuo; Assistant Professors Bardot, Cassibry, Evans, Fahimi, Shotorban, Slegers, Wang; Lecturers Carmen, Hembree, Skinner, Thompson; Research Professors Blackmon, Snider; Adjunct Associate Professor Ooi.
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 engineering profession in general and in the mechanical and aerospace engineering disciplines in particular and to support the diverse mechanical and aerospace engineering needs of Huntsville, the State of Alabama, the region, our nation, and the international community.

To accomplish this mission the department seeks to

1. inspire students to attain the highest levels of intellectual and personal growth throughout their lives;
2. enable students and faculty to make lasting contributions to the advancement of knowledge and the creative practice of engineering;
3. equip students with the ability to use modern engineering tools for design, analysis, experimentation, and development;
4. engage the faculty in service that enhances the public’s understanding of technology for the betterment of society;
5. provide leadership in engineering education, research, and practice;
6. promote equality of opportunity for engineering education;
7. produce graduates who are well prepared to meet the challenges of a modern, dynamic engineering environment; and
8. capitalize on the unique opportunities for collaboration with the local high technology community.

Department Calculator and Electronic Devices Policy

The Department of Mechanical and Aerospace Engineering has established a department wide calculator and electronic devices policy that is more restrictive than the policy articulated in the Student Handbook. The policy is: no electronic devices are to be in sight during an examination with the exception of approved calculators. The only calculators that can be used on examinations in the Department of Mechanical and Aerospace Engineering courses are those approved by the National Council of Examiners for Engineering and Surveying (NCEES) for the Fundamentals of Engineering Examination (www.ncees.org). Please see the MAE department web site for a list of approved calculators.

Aerospace Engineering Option in Mechanical Engineering

Aerospace engineering is a diverse and rapidly changing field that consists of four primary technology areas: aerodynamics, structures and materials, propulsion, and flight mechanics and control. Aerospace engineers have traditionally applied their knowledge in these areas to the design and development of high performance flight systems such as aircraft, rotorcraft, spacecraft, missiles and rockets. However, today’s aerospace engineer may also work in areas such as ground transportation systems (automobiles, trains and nautical craft), power generation (wind and hydroturbines), and environmental aerodynamics (wind loads on structures, atmospheric pollutant dispersal). At UAHuntsville a student may obtain a BSE degree option in mechanical engineering with a concentration in aerospace engineering. The curriculum for the aerospace concentration is essentially the same as that for the mechanical engineering option through the sophomore year. At that time the student takes a series of specialized aerospace engineering courses in aerodynamics, propulsion, structures, design, and flight mechanics. These courses can also be used as technical electives in other engineering and science programs.

MAE 100 - Introduction to Mechanical and Aerospace Engineering
MAE 110 - Introduction to Engineering Computer Aided Design

MAE 115 - Introduction to Machining

MAE 200 - Principles of Aeronautics and Astronautics

MAE 271 - Statics

MAE 272 - Dynamics

MAE 285 - Numerical Methods and Computation I

MAE 311 - Principles of Measurement and Instrumentation

MAE 341 - Thermodynamics I

MAE 342 - Thermodynamics II

MAE 364 - Kinematics and Dynamics of Machines

MAE 370 - Mechanics of Materials

MAE 371 - Aerospace Structures
MAE 378 - Materials and Manufacturing Processes

MAE 385 - Numerical Methods and Computation II

MAE 395 - Selected Topics in Mechanical and Aerospace Engineering

MAE 410 - Fluid Mechanics II

MAE 411 - Fluid Mechanics Laboratory

MAE 420 - Compressible Aerodynamics

MAE 430 - Fundamentals of Aerodynamics

MAE 440 - Rocket Propulsion I

MAE 441 - Airbreathing Propulsion

MAE 449 - Aerospace Laboratory

MAE 450 - Introduction to Heat and Mass Transfer

MAE 455 - Design of Thermal Systems
MAE 461 - Vibrations of Elastic Systems

MAE 463 - Intermediate Dynamics

MAE 466 - Mechanics and Design of Machine Elements

MAE 468 - Elements of Spacecraft Design

MAE 474 - Applied Mechanics of Solids

MAE 476 - Mechanics & Fabrication of Composite Materials

MAE 477 - Experimental Techniques in Solid Mechanics

MAE 480 - Aircraft Stability and Control

MAE 485 - Numerical Methods and Computation III

MAE 488 - Analysis of Engineering Systems

MAE 489 - Computer-Aided Engineering Analysis

MAE 490 - Introduction to Engineering Design
MAE 491 - Mechanical Engineering Design

MAE 492 - Aerospace Design

MAE 493 - Rocket Design

MAE 494 - Aircraft Design

MAE 495 - Selected Topics in Mechanical and Aerospace Engineering

MAE 496 - Independent Study in Mechanical and Aerospace Engineering

MAE 497 - Intership in Engineering

MAE 499 - Undergraduate Thesis

MAE 544 - Introduction to Electric Propulsion

Liberal Arts

256 Morton Hall
Telephone: (256) 824-6200
Email: dean-la@uah.edu
Dean: Glenn T. Dasher, BFA, MFA, Professor of Art - Sculpture

The College of Liberal Arts provides educational experiences and programs of study in the major fields of the arts, humanities, and social sciences. These programs are designed to contribute to the intellectual development of students and to assist them in preparing for successful careers by emphasizing the development of written and oral...
communication skills, critical analysis, and problem solving abilities. They also promote an understanding of relationships among people as well as an awareness of the relationship between human beings and elements of the physical and biological world.

The arts and the humanities, encompassing art, history, languages and literatures, music, and philosophy, lead to a cognizance and appreciation of life as humankind has perceived it and as individuals have lived it. This study leads to heightened critical faculty, cultivation of taste, and the ability to be more effective in utilizing language and in appreciating, using, and evaluating values and ideas. The study of the arts and the humanities is essential to a broad and sensitive awareness of humankind as it has been, is, and aspires to be.

The social sciences encompass the knowledge that deals with the behavior of humankind and the culture it has created, knowledge that becomes more necessary as the world grows more complex and interrelated. Social scientists perform a dual function, assembling and ordering complex systems of technical knowledge related to human relationships and providing a continual appraisal of the value systems in our society. The social science programs at UAHuntsville (political science, psychology, and sociology) are designed to prepare the student to value and perform both of these roles. Since these disciplines are concerned with a social milieu that is both possible and desirable, the approach involves both the understanding and use of the scientific method and an appreciation of and sensitivity to questions of values.

The College of Liberal Arts offers courses of study that provides its students, and those in the sciences, with the preparation that is necessary to gain teacher certification. These programs include the in-depth study of at least one field in the liberal arts and sciences and intensive professional training in the field of education.

Throughout its curriculum, the College of Liberal Arts attempts to utilize and build upon the richness and diversity of our tradition and diverse talents of our faculty in preparing persons to be secure, productive, and successful in a free and humane society. Its goals are to aid in the development of more sensitive and successful scientists, more creative and powerful artists, and more disciplined students of the humanities. In sum, it seeks to contribute to the individual’s development as a well-rounded and capable person and professional who is prepared to undertake successfully and to provide leadership in effectively confronting the many challenges of life.

Mission

The College of Liberal Arts is committed to excellence in teaching, research, and service in the following disciplines: fine arts, humanities, the 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.

Accreditation

The University of Alabama in Huntsville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, and the College of Liberal Arts thus offers baccalaureate and graduate programs under the auspices of that accrediting body. In addition, the University of Alabama in Huntsville is an accredited institutional member of the National Association of Schools of Art and Design (NASAD) and the National Association of Schools of Music (NASM). Teacher education programs are 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, and the Department of Education at The University of Alabama in Huntsville is accredited by the National Council for Accreditation of Teacher Education (NCATE).

Facilities

The College of Liberal Arts utilizes the facilities and resources of the entire University. However, the College is housed primarily in three buildings, namely Morton Hall, Roberts Hall, and Wilson Hall. Critical to study of the liberal arts is the Salmon Library, located in close proximity to Morton, Roberts, and Wilson Halls. Supporting facilities include the Writing Center located on the second floor of Morton Hall, an instructional computer laboratory on the second floor of Salmon Library, art galleries in the Salmon Library, Wilson Hall, and the Union Grove Gallery and Meeting Hall, an historic church moved to campus in 1974 and currently used as an art gallery and a meeting place for students and faculty.

The Humanities Center

The Humanities Center was established in 1991 with the aid of an award from the National Endowment for the Humanities (NEH). The NEH award was a challenge grant that was subsequently matched by funds from other sources, including public, corporate, and private giving, to create the three endowments that support the Center’s activities in five areas: hiring of eminent and visiting scholars, library enhancement grants, public programming grants, faculty travel, and faculty research. The Humanities Center is located on the third floor of Roberts Hall.

Undergraduate Degrees and Programs

The College of Liberal Arts awards the Bachelor of Arts degree. A student’s Program of Study must total at least 128 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 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 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 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 39 semester hours of a student’s Program of Study must be at the 300-level or above.

Students initiate a Program of Study with the College of Liberal Arts Academic Advisor who works in consultation and cooperation with departmental chairs to tailor a student’s Program of Study. Elements of the Program of Study are subject to approval of the chairs of the student’s major and minor departments. Cognate studies are subject to approval of the chair of the student’s major department. All Programs of Study are subject to approval by the Dean of the College.

Availability of majors, minors, and cognates are summarized below. Please see the Department of Education section of the catalog for complete information about teacher certification programs.

<p>| Discipline | Major Available | Minor/Cognate Available | Possible Foci |</p>
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Bachelor's Degree</th>
<th>Graduate Programs</th>
<th>Major Focuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art and Art History</td>
<td>Yes</td>
<td>Yes</td>
<td>Studio (including Graphic Design) and Art History</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Communication Arts</td>
<td>Yes</td>
<td>Yes</td>
<td>Rhetoric, Technical Communications</td>
</tr>
<tr>
<td>Computer-Mediated Communication (Web Design)</td>
<td>No</td>
<td>Yes</td>
<td>Cognate Studies Available</td>
</tr>
<tr>
<td>Elementary Education (Teacher Preparation)</td>
<td>Yes</td>
<td>No</td>
<td>Elementary, Collaborative-Special Education</td>
</tr>
<tr>
<td>Secondary Education* (Teacher Preparation)</td>
<td>See Foci</td>
<td></td>
<td>Discipline Majors:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Biology, Chemistry, English, History, Mathematics, Physics, French, German, Spanish, Russian, Music (P-12)</td>
</tr>
<tr>
<td>English*</td>
<td>Yes</td>
<td>Yes</td>
<td>Literature, Technical Writing, Teacher Preparation</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Yes</td>
<td>Yes</td>
<td>French, German, Russian, Spanish, Foreign Language and International Trade, Teacher Preparation</td>
</tr>
<tr>
<td>Global Studies History*</td>
<td>No</td>
<td>Yes</td>
<td>Cognate Studies Available</td>
</tr>
<tr>
<td>History*</td>
<td>Yes</td>
<td>Yes</td>
<td>History, Teacher Preparation</td>
</tr>
<tr>
<td>Music</td>
<td>Yes</td>
<td>Yes</td>
<td>Performance, Liberal Arts, Jazz, Music Technology, Music Teacher Preparation</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Prelaw</td>
<td></td>
<td></td>
<td>See Prelaw Advisor</td>
</tr>
<tr>
<td>Political Science**</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Psychology*</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Women's Studies</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

*Graduate programs also available (see Graduate Catalog)

**Graduate program available in Public Affairs (see Graduate Catalog)

Graduate Degrees and Study
Graduate study in the College of Liberal Arts brings together faculty and advanced students to share the excitement of creative learning. All degree candidates plan a program of study with faculty members who share the student’s intellectual interests. Within the framework of the requirements established by the Department and the School of Graduate Studies, students design, in consultation with a faculty advisor, a graduate program fitted to their particular interests and needs.

The College of Liberal Arts offers programs of study leading to the Master of Arts Degree with concentrations in English, History, Psychology, and Public Affairs. Class “A” teacher certification is available with concentrations in English and history in the College of Liberal Arts and biology, chemistry, mathematics, or physics in the College of Science. Certification may be achieved through either traditional or non-traditional “fifth year” approaches.

### Academic Information, Advisement and Policies

#### Admission to the College of Liberal Arts

Entering students who meet all university admission requirements for regular admission status may be admitted to the College of Liberal Arts upon designation of a discipline major that is housed within the College, with the exception of the disciplines of music and teacher education preparation programs. Students planning to major in either music or teacher preparation programs should refer to the appropriate departmental section of the catalog for specific admission requirements for those programs. Students seeking transfer to the College of Liberal Arts from other colleges on the UAHuntsville campus must have earned a 2.0 overall GPA to be admitted to the College of Liberal Arts.

Students from Alabama community colleges who plan to transfer to the College of Liberal Arts at UAHuntsville are advised to consult the STARS advisement website (http://stars.troy.edu) or to contact the College of Liberal Arts Academic Advisor for assistance. Additionally, such prospective UAHuntsville students are advised to read the Transfer Student section of this catalog.

#### Academic Advising in the College of Liberal Arts

College of Liberal Arts Academic Advisor: Frank E. Bell, B.A., M.A., M.A.E.D.

The College of Liberal Arts provides academic advising for its students through the various academic departments and through the office of the Academic Advisor for the College of Liberal Arts. All students are strongly encouraged to seek advising assistance at the beginning of their academic careers and to continue working with their advisors throughout their academic experience. All freshmen and most sophomores with an expressed interest in liberal arts are advised by the Academic Advisor for the College of Liberal Arts, who is located in Room 220 Morton Hall; phone 824-2867; email: bellf@uah.edu. In addition, a Prelaw Advisor is available to assist those who plan to apply for admission to law school.

The goals of academic advising include: 1) assisting students in planning academic and life goals; 2) assisting students in their personal adjustment to the UAHuntsville 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; and 5) facilitating student success.

The College of Liberal Arts Academic Advisor assists students in fulfilling the General Education Requirements and, in concert with faculty advisors, provides information about possible major fields. An official declaration of major should be filed by the end of the sophomore year. When a student decides on a specific major and minor, the student will then initiate a Program of Study with the College of Liberal Arts Academic Advisor. Subsequent to completion of a Program of Study, the student is advised by faculty within the declared major(s) and minor(s). These faculty members are specialists in their fields of interest.
Classical Studies

Dr. Richard Gerberding, Director
410 Roberts Hall
Telephone (256) 824-6310
Email: gerberdingr@email.uah.edu
College of Liberal Arts 246

Classical studies is a program designed to impart an academic familiarity with the languages, history, and culture of ancient Mediterranean society. Its program of study includes various courses taught by several departments within the College of Liberal Arts, arranged so as to fulfill a student’s requirements for an academic minor.

Global Studies Program

Dr. David Johnson, Director
253 Morton Hall
Telephone: (256) 824-6288
Email: johnsod1@uah.edu

The Global Studies cognate is an interdisciplinary cognate aimed at students interested in pursuing in-depth study of the world outside the United States. The cognate is designed around a core of courses that provide a strong foundation in Global Studies, while also allowing students the flexibility in their choice of electives to tailor the course of study to their individual needs and interests. The Global Studies Program also administers faculty-led study abroad courses and programs.

CL 100 - Survey Ancient to Medieval

CL 101 - Elementary Latin I

CL 102 - Elementary Latin II

CL 199 - Special Topics

CL 201 - Intermediate Latin I

CL 229 - Survey of Ancient Times
CL 242 - Mythology

CL 301 - Ancient Philosophy

CL 302 - Ancient Greek Art

CL 305 - Ancient Roman Art

CL 329 - Imperial Rome

CL 330 - Classical Political Philosophy

CL 340 - Special Topics

CL 399 - Independent Study approved by the director

CL 499 - Independent Study in Latin

ED 422 - Teaching Math in Middle & Secondary Schools

ED 423 - Teaching Science in Middle & Secondary Schools

ED 424 - Teaching Social Studies in Middle & Secondary Schools
FYE 101 - Charger Success

GS 199 - Study Abroad

GS 200 - Global Systems and Cultures

GS 220 - Globalization Technology and Culture

GS 399 - Study Abroad

GS 400 - Topics in Global Studies

GY 105 - World Regional Geography

GY 110 - Principles of Human Geography

H 400 - Honors Internship

WS 200 - Introduction to Women’s Studies

WS 340 - Special Topics

WS 499 - Independent Study
Art and Art History

313 Roberts Hall
Telephone: (256) 824-6114
Email: art@uah.edu

Professor Dasher; Associate Professors Johnson, Jones, Joyce (Acting Chair), Stewart; Assistant Professors Gardner, Betancourt; Lecturers Veasey, Vines; Visiting Assistant Professor Kuehnle.

Mission

The Department of Art and Art History, an accredited institutional member of the National Association of Schools of Art and Design, is dedicated to preparing students with the knowledge and skills necessary for pursing lives as artists, designers, and art historians, who will be creative, inquisitive, and well-rounded individuals, conscious of the important role that artistic endeavor and intellectual pursuit plays 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 Liberal Arts.

Program

The Department of Art and Art History offers courses in the studio arts and art history leading to a Bachelor of Arts major, a minor, or as part of a program of cognate studies in art or art history. Students pursuing a program of study in Art may focus on either the studio discipline or the art history discipline. The studio focus allows a student to specialize at the upper division in drawing/painting, graphic design, photography, printmaking, or sculpture.

Any student enrolled at the university is encouraged to consider taking art courses as a major, a minor, or simply as electives for personal enrichment through involvement with the visual arts or art history. Please note however, that due to increasing enrollment demands, placement in all art and art history courses is initially reserved for art majors and minors. All others will be admitted and welcomed if space is available.

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Transfer credit for equivalent coursework and advanced placement in art courses will be determined by the departmental chair. Art majors transferring to UAHuntsville must complete at least 12 semester hours of art courses at the 300-level or above at UAHuntsville. Art minors transferring in must take at least 6 semester hours of art courses at the 300-level or above.

ARH 100 - Art History Survey: Ancient to Medieval

ARH 101 - Art History Survey: Renaissance to Modern
ARH 103 - Art History Survey: Art in Non-Western Traditions

ARH 301 - Ancient Greek Art

ARH 302 - Medieval Art

ARH 303 - Renaissance Art

ARH 304 - Twentieth Century Art

ARH 305 - Ancient Roman Art

ARH 307 - Impressionism and Post-Impressionism

ARH 309 - Contemporary Art and Issues

ARH 310 - Nineteenth Century Art

ARH 320 - Special Topics in Art History

ARH 395 - Independent Study

ARH 400 - Art History Seminar
ARS 123 - Two-Dimensional Design and Color Theory

ARS 140 - Three-Dimensional Design

ARS 160 - Introduction to Drawing

ARS 230 - Introduction to Graphic Design

ARS 240 - Introduction to Sculpture

ARS 250 - Introduction to Photography: Digital Image-Making

ARS 260 - Intermediate Drawing

ARS 270 - Introduction to Painting

ARS 280 - Introduction to Printmaking

ARS 331 - Graphic Design: Layout and Print Production

ARS 332 - Graphic Design: Web Design

ARS 340 - Sculpture: Assemblage
ARS 341 - Sculpture: Carving

ARS 342 - Sculpture: Casting

ARS 346 - Sculpture: Figure Modeling

ARS 350 - Photography: Digital Image-Making Processes

ARS 352 - Photography: Traditional Darkroom Processes

ARS 353 - Photography: Experimental and Historic Processes

ARS 360 - Advanced Drawing

ARS 375 - Painting: Traditional Approaches

ARS 376 - Painting: Contemporary Approaches

ARS 377 - Painting: Mixed Media

ARS 381 - Printmaking: Etching and Lithography

ARS 383 - Printmaking: Relief and Screen-printing
ARS 393 - Multi-Media

ARS 430 - Advanced Graphic Design: Print Media

ARS 431 - Advanced Graphic Design: Digital Media

ARS 440 - Advanced Sculpture: Assemblage

ARS 441 - Advanced Sculpture: Carving

ARS 442 - Advanced Sculpture: Casting

ARS 450 - Advanced Photography: Digital Image-Making

ARS 452 - Advanced Photography: Traditional Darkroom Processes

ARS 453 - Advanced Photography: Experimental and Historic Processes

ARS 475 - Advanced Painting: Traditional Approaches

ARS 476 - Advanced Painting: Contemporary Approaches

ARS 477 - Advanced Painting: Mixed Media
ARS 481 - Advanced Printmaking: Etching and Lithography

ARS 483 - Advanced Printmaking: Relief and Screen-printing

ARS 493 - Advanced Multi-Media

ARS 495 - Technical Problems

ARS 499 - Web Seminar

PY 300L - Psychological Statistics Lab

Communication Arts

342 Morton Hall
Telephone: (256) 824-6645
Email: comm@uah.edu

Professor Rountree; Associate Professor Givens (Chair), Assistant Professors Gilchrist, Harwell, Lecturer Scroggin.

The Department of Communication Arts offers a comprehensive program of study leading to a Bachelor of Arts degree. Majors and minors gain practical, critical, historical, and theoretical perspectives on human communication, preparing them for work, for social life, and for further academic studies. Majors elect to specialize in courses following two distinct tracks in communication arts: a rhetoric track and a technical communication track. The rhetoric track focuses upon how discourse—especially persuasive discourse—is adapted to various contexts. The technical communication track focuses specifically on the communication of technical information to non-technical audiences, particularly in written discourse. In addition, the department offers courses in theater, media writing, communication research, nonverbal communication, and other specialized communication contexts.

Mission

Department of Communication Arts offers a variety of classes that critically examine the public, professional, cultural and personal dimensions of human communication. Our comprehensive program strategically weaves together core courses in the humanistic tradition of rhetorical theory and practice with social-scientific perspectives on communication. This curriculum capitalizes on the field’s far-reaching theoretical span, having roots in ancient Greco-Roman civilizations, where rhetoric became the capstone of education and the lifeblood of civic activity, and having fecund branches in the communication media of the present and future.
Our department features teacher-scholars who support majors seeking work in professional communication, in business, and in other areas, or attending graduate school; minors who wish to supplement their majors with a focus on communication; and students from various colleges who rely on us to teach them practical communication skills or to learn to appreciate theatre. Our faculty will continue to serve student groups, the university, the community, and our profession.

CM 100 - Introduction to Computer-Mediated Communication

CM 110 - Voice and Diction

CM 113 - Introduction to Rhetorical Communication

CM 122 - Theater Appreciation

CM 205 - Media Writing

CM 214 - Oral Performance of Literature

CM 221 - Acting

CM 231 - Foundations of Human Communication

CM 251 - Decision-Making in Small Groups

CM 301 - Technical Writing
CM 302 - Technical Editing

CM 309 - History of Rhetoric

CM 310 - Persuasion

CM 311 - Interviewing

CM 313 - Business and Professional Communication

CM 316 - Legal Argument

CM 320 - Practicum in Writing

CM 322 - Theater History I

CM 323 - Theater History II

CM 325 - Elements of Theatre Production

CM 330 - Nonverbal Communication

CM 331 - Communication Theory
CM 333 - Interpersonal Communication

CM 334 - History of American Cinema

CM 340 - Special Topics in Communication Arts

CM 345 - Media Representation

CM 370 - Communication Research Methods

CM 375 - Rhetorical Criticism

CM 400 - Internship

CM 401 - Computer-Mediated Communication

CM 402 - Theory and Practice in Technical Communication

CM 405 - Advanced Media Writing

CM 410 - Political Communication

CM 416 - Women Orators
CM 425 - Theatre Mainstage

CM 430 - Mass Media in America: Theory and Criticism

CM 431 - Senior Seminar in Communication Theory and Research

Education

232-K Morton Hall
Telephone: (256) 824-6180
Email: educ@uah.edu

Associate Professors Dillihunt, Enger, and Piersma (chair); Assistant Professors, Kovacs, O’Brien, Pritchard, Smith; Visiting Assistant Professor Confer; Lecturer Patrick

Mission

The Department of Education defines its mission through three focal elements: 1) to prepare teachers and other school personnel who are academically strong, competent in both theory and practice, and prepared to contribute to the needs of a dynamic, complex world; 2) to provide an environment that encourages the department faculty to model sound pedagogy, engage in research and scholarly activities, and become leaders within their area of expertise; and 3) to make our teaching, research, and service available to the entire community in order to meet the changing needs of schools, organizations, and professional communities in our region, state, nation, and international community. The mission of the Department 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 teachers who are exceptionally well-prepared in disciplinary, pedagogical, and professional knowledge, who understand and are prepared to address the needs of all learners, and who are committed to serving as leaders in the educational community to ensure that all students receive a high-quality public or private education.

Accreditation

Teacher education programs at UAHuntsville are accredited by the National Council for Accreditation of Teacher Education (NCATE) 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.

Facilities

The Department of Education utilizes the facilities and resources of the entire university, the community, and the schools. The department maintains a special partnership with the teachers and students at University Place Elementary School adjacent to the UAHuntsville campus. Classrooms and faculty offices are located in Morton Hall. The department also maintains Elementary and Secondary Teacher Resource Centers in Morton Hall and a Computer
Education Laboratory in the Salmon Library where current teaching materials are available and where laboratory classes are held. The Institute for Science Education, a resource center for teaching and research in science and mathematics, is located in Shelbie King Hall.

**Services**

In addition to its teaching function, the department provides in-service education for schools, agencies, and institutions of higher learning; conducts and disseminates research to solve educational problems; and provides consultative service to all types and levels of educational institutions.

**Degrees and Programs Offered**

Under the State of Alabama plan, there are five levels of teacher certification programs, namely, P-3, K-6, 4-8, 6-12, and P-12. The Department of Education offers all options except P-3. In conjunction with the College of Liberal Arts and the College of Science, the department offers both undergraduate and graduate certification programs. Candidates who complete the following undergraduate certification programs meet the requirements for the Highly Qualified Teacher in Alabama.

- **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, social science.
- **Collaborative Teacher –Special Education K-6 or 6-12**
- **Middle School Endorsement (4-8)** with teaching fields biology, chemistry, English language arts, foreign language (German, French, Spanish), general science, history, mathematics, physics, and social science
- **Music Education (P-12)**

A minor is not available in education.

**Academic Advising**

Students who plan to enroll in the Teacher Education Program and qualify for teacher certification should contact the chair of the Department of Education to be assigned an advisor as early as the freshman year. Students are expected to consult their advisors about curricular and degree requirements. In addition, students are expected to consult with advisors from their teaching field departments to coordinate the planning of programs of study.

**Career Services and Placement**

The Career Services Office, 117 Engineering Building, assists all students who have completed an approved Teacher Education Program at UAHuntsville and who are eligible for an Alabama professional certificate, in seeking teaching positions. All teacher education students are encouraged to file their credentials with the Career Services Office during their senior year.

THE STATE BOARD OF EDUCATION PERIODICALLY REVISES THE REQUIREMENTS GOVERNING CERTIFICATION IN THE STATE OF ALABAMA. THEREFORE, REQUIREMENTS FOR DEGREES LEADING TO CERTIFICATION ARE SUBJECT TO CHANGE FROM THOSE PUBLISHED IN THIS CATALOG. THE STUDENT IS REQUIRED TO SEEK ADVISEMENT FROM THE EDUCATION
DEPARTMENT (AS EARLY AS POSSIBLE IN THE PROGRAM OF STUDY) TO ENSURE THAT BOTH DEGREE REQUIREMENTS AND CERTIFICATION REQUIREMENTS ARE MET.

General Information

Student Responsibility. Education students are expected to register for appropriate courses necessary to make reasonable progress toward completing program requirements by the expected date of graduation. They must familiarize themselves with the requirements contained in this catalog and initiate the application process for a program of study. Faculty advisors are available to assist students as needed.

Local Mailing Address. Students are expected to maintain a mailing address at which communication from the department will, with reasonable certainty, reach them. The address should be recorded in the department office.

Registration and Enrollment. Education students seeking an institutional recommendation from UAHuntsville for professional certification must complete all professional education coursework at UAHuntsville. Transfer students will have their credits evaluated on an individual basis to determine course equivalency.

Course Substitution. When a course substitution in professional studies or the teaching field is desired, permission must be obtained prior to enrolling in the course. Students should contact the Certification Officer in the UAHuntsville Department of Education for appropriate forms. Written approval from the Department Chair is required. Courses taken without approval may prevent a student from completion as planned.

Course Repeat Policy. The UAHuntsville course repeat policy allows students to repeat courses on a limited basis in order to improve the grade in a course. Education students may take advantage of this policy in all subjects. Education students who receive a D in professional education or teaching field courses will be required to repeat the course at UAHuntsville. This is in compliance with the Alabama State Code of Education, but differs from the UAHuntsville course repeat policy in this regard. See the Academic Information section of this catalog for the UAHuntsville course repeat policy.

Program Completion. If a student does not complete requirements for the undergraduate degree within a period of seven years from the date of admission to UAHuntsville, the Department of Education will modify the student’s program to bring it into alignment with current degree and certification requirements. In addition, students in the teacher education program must complete that program’s requirements within four years from the date of formal admission to the program, or they must re-apply for admission.

Preadmission Requirements

File an Intent to Apply to the Teacher Education Program (TEP) with the Certification Officer as soon as a decision is made to seek teacher certification but no later than the end of the sophomore year. Apply for a Program of Study (POS) before or during the first semester of education courses. In addition, students must meet the following requirements:

1. No more than 2 courses of the General Education Requirements remain to be taken.
2. Minimum GPA of 2.5 and grades of C or higher in EH 101 & 102 (or EH 105), CM 113, MA 230, and PY 201.
3. Submit a finger print 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 Teacher Education Program
Admission to the university does not qualify a student for admission to the Teacher Education Program. Students must submit an Application for Admission to the Teacher Education Program during the Block I semester of the education courses. They must also verify that an approved Program of Study (POS) is on file in the UAHuntsville Department of Education. In addition, students must meet the following requirements:

1. Minimum 2.75 GPA in Block I Education courses (ED 301, 305, 308, and 350) with no grade lower than a C.
2. Minimum 2.5 GPA in major or second area of study with no grade lower than C.
3. Satisfactory completion of required Block I Field Experiences.
4. Satisfactory completion on Application Essays
5. Three Letters of Recommendation.

**Admission for transfer students.** Transfer students who have completed two years of undergraduate study may be eligible to apply for admission to the TEP if they have a grade point average of 2.5 for 9 semester hours of coursework at UAHuntsville and meet other preadmission requirements.

**Admission by reciprocity.** Students who have been admitted to a teacher education program at an accredited university or college in Alabama may apply for reciprocal admission to the Teacher Education Program (TEP) with the Certification Officer or the Department Chair.

### Continuation in the Teacher Education Program

Requirements include:

1. Minimum 2.75 GPA in Education courses with no grade lower than C. Minimum grade of C is also required for MA 230.
2. Minimum 2.5 GPA in second area of study or teaching field with no grade lower than C.
3. Satisfactory ratings on Dispositions Assessments.
5. Passing Score on APTT.

If the above requirements are not met, a Personalized Professional Development Plan (PPDP) will be initiated. Candidates who do not meet the conditions of the PPDP may be dismissed from the Teacher Education Program.

### Field Experiences

The Alabama State Department of Education requires that all teacher candidates complete a minimum of 200 hours of 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 50 hours of experience each semester.

### 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 2.75 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.
3. Satisfactory ratings on Dispositions Assessments.
5. Passing Score on Praxis II.

**Application Dates:** January 31 for the following Fall Semester and June 30 for the following Spring Semester. Internships must be taken the last semester before graduation. All internship placements are coordinated by the Department of Education faculty. At UAHuntsville, 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.
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.

**Graduation**

To graduate, the student must have met all general University and degree program requirements as outlined in the catalogue. In addition, teacher candidates must have maintained a 2.5 grade-point average in all teaching field courses and a 2.75 in all professional education courses at UAHuntsville and/or all other institutions attended, with no grade lower than a “C” in all professional education courses including the internship, to be recommended for a teaching certificate.

**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. Approved undergraduate programs offered by the UAHuntsville Department 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 program requirements including satisfactory completion of the internship.
2. Satisfactory completion of the UAHuntsville Exit Portfolio Review and Praxis II.
3. Individuals who hold a valid Alabama substitute teacher’s license must submit to the certification officer a copy of the substitute license along with all certification application paperwork.
4. 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.

*Certificate Renewal*

1. The initial Class B certificate is valid for five years. This certification may be renewed upon verification of successful teaching for three years and completion of an approved professional development program or earning upper division or graduate level credit in the certification area.
2. Individuals who allow their certificates to lapse for more than 6 months will be required to renew their certificates, obtain another background clearance, and meet requirements of the Alabama Professional Teacher Testing (APTT) program for issuance of a renewed certificate or license. The UAHuntsville Department of Education in accordance with the Alabama State Board of Education provides courses for persons who wish to renew their certificates.

**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 Department 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 the Alabama Professional Education Personnel Evaluation (PEPE) or comparable evaluations recognized and approved by the State Board of Education. This policy is consistent with the Alabama State Code of Education.

Teacher Education Programs at UAHuntsville

B.A. and/or B.S. programs are available for the following certification programs: biology, chemistry, collaborative teacher, elementary education, English-language arts, French, general science, German, history, mathematics, music, 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 Education Department about General Education Requirements for their program of study.)

ED 115 - Effective Reading and Study Skills

ED 301 - Introduction to Education Practicum

ED 305 - Foundations of Education in the United States

ED 308 - Educational Psychology

ED 309 - Classroom and Behavior Management

ED 310 - Integrating the Creative Arts in Elementary School Classrooms

ED 315 - Educational Evaluation and Measurement

ED 325 - The Sociology of Education

ED 350 - Technology in the Classroom
ED 371 - Teaching Elementary Language Arts

ED 372 - Teaching Elementary Social Studies

ED 373 - Teaching Elementary Science and Health

ED 374 - Teaching Elementary Mathematics

ED 375 - Teaching Reading in Primary Grades

ED 405 - Reading Strategies in Intermediate Grades

ED 408 - Teaching Reading in the Content Area

ED 410 - Foundations of Educational Evaluation

ED 413 - Children's and Adolescent Literature

ED 414 - Teaching Secondary Science and Mathematics

ED 415 - Teaching Secondary Humanities and Social Sciences

ED 416 - Middle and Secondary Methods Block
ED 421 - Teaching English in Middle & Secondary Schools

ED 430 - Applied Multiculturalism

ED 492 - Observation and Participation in Teaching

ED 493 - Elementary School Internship

ED 496 - Middle School Internship

ED 497 - High School Internship

ED 499 - P-12 Internship (Music)

ED 500 - Special Problems in Education

EDC 301 - Teaching the Exceptional Child (Survey Part I)

EDC 302 - Introduction to Low Incidence Populations (Survey Part II)

EDC 311 - Instructional Strategies: Dimensions of Learning for K-12 Students

EDC 321 - Collaborative Consultation (Parents, Teachers, Teams)
EDC 331 - Critical Issues in Education: Behavioral, Medical, and Legal Issues

EDC 341 - Transition of K-12 Students: Assessing to Inform Change

EDC 351 - Behavior Analysis and Intervention

EDC 499 - P-12 Internship (Music)

English

222 Morton Hall
Telephone: (256) 824-6320
Email: eh@uah.edu

Professors Neff, Associate Professors Bell, Bollinger, Early, Nelson, Schenker (Chair), Assistant Professors Balla, Flint, Frost, Smith, Taylor; Lecturers Cross, Friedman, Gunn, McPherson, Roper, Shattuck, Singer, Word-Allbritton.

Mission Statement:

The Department of English is committed to excellence in teaching, research, and service in the following disciplines: British, American, and global literature in English; business writing and technical communication; writing pedagogy and composition theory; applied linguistics (English as a Second Language and Teaching English to Speakers of Other Languages); teacher education; and creative writing. The department serves non-majors, majors, and graduate students by providing a wide array of courses that foster sound research; intellectual curiosity; critical thinking and reading; and clear, graceful, and persuasive writing and speaking. Through its programs, graduates, and faculty, the department contributes significantly to the cultural and academic enrichment and the quality of life of the campus, community, state, and region.

The Department of English offers courses to fulfill requirements for the major and minor in English at the bachelor’s degree level. It also offers a program leading to teacher certification, a cognate option in technical writing, and writing courses at a variety of levels, including English as a second language (ESL). A Master of Arts degree in English is described in the Graduate Catalog.


Declaring the Major
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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

**Linguistics and English Language Studies**

The department offers a variety of courses related to General Linguistics, English Language, Grammar, and the Teaching of English to Speakers of Other Languages (TESOL). For those who are interested in the Teaching of English to Speakers of Other Languages (TESOL), the department offers a certificate in TESOL in conjunction with the M.A. degree and an independent TESOL certificate at the graduate level. Interested undergraduates may take courses, which would be helpful should they eventually want to go on for the TESOL certificate and M.A. degree. Such students should consult with the department chair.

**EH 100 - Intensive Writing**

**EH 100S - Intensive Writing Studio**

**EH 101 - Freshman Composition**

**EH 102 - Freshman Composition**

**EH 105 - Honors English Seminar**

**EH 105(H) - Honors English Seminar**

**EH 205 - British Literature I**

**EH 206 - British Literature II**

**EH 230 - American Literature I**
EH 231 - American Literature II

EH 240 - World Literature I

EH 241 - World Literature II

EH 242 - Mythology

EH 250(H) - Honors World Literature I

EH 251(H) - Honors World Literature II

EH 300 - Strategies for Business Writing

EH 301 - Technical Writing

EH 302 - Technical Editing

EH 320 - Practicum in Writing

EH 330 - American Literature through the Civil War

EH 331 - American Literature from the Civil War to WWI
EH 332 - American Literature from WWI to WWII

EH 333 - American Literature from WWII to the Present

EH 360 - Shakespeare

EH 380 - Restoration and Early Eighteenth Century

EH 381 - Later Eighteenth Century

EH 390 - Romantic Poetry and Prose

EH 391 - Victorian Poetry and Prose

EH 400 - Composition Studies for Teachers

EH 401 - Theory and Practice in Technical Communication

EH 403 - Literary Criticism and Theory

EH 404 - Literary Research Methods

EH 408 - History of the English Language
EH 410 - Fiction Writing

EH 411 - Poetry Writing

EH 412 - Special Topics in Writing

EH 413 - Children's and Adolescent Literature

EH 415 - Studies in Anglophone/Postcolonial Literature

EH 418 - Representative Texts by Women Writers

EH 420 - Modern and Contemporary Poetry

EH 421 - Modern Drama

EH 422 - Modern Novel

EH 423 - Studies in Contemporary British Literature

EH 425 - Literature and Technology

EH 430 - The American Novel
EH 431 - The American Novel

EH 433 - William Faulkner

EH 435 - Special Studies in American Literature

EH 438 - African American Literature

EH 439 - Ethnic American Novel

EH 440 - Special Studies in English Literature

EH 448 - The Bible as Literature

EH 450 - Chaucer

EH 451 - Middle English Literature

EH 460 - Sixteenth-Century Poetry and Prose

EH 470 - Milton

EH 471 - Renaissance Drama
EH 472 - Seventeenth-Century Poetry

EH 492 - The Early English Novel

EH 493 - The Victorian Novel

EH 495 - The Literature of Transition

EHL 301 - Technical Writing for Graduate Students

EHL 405 - Survey of General Linguistics: Applied English Linguistics I

EHL 406 - Critical Issues

EHL 407 - Advanced English Grammar Studies: Applied English Linguistics II

EHL 408 - TESOL Methods

EHL 409 - Special Studies in Applied English Linguistics

ESL 101 - Listening/Speaking II

ESL 102 - Listening/Speaking III
The acquisition of a second language, and through it an understanding of another country’s literature and culture, is a rich academic experience for all students, particularly for liberal arts students. Because our foreign language courses are designed to teach the effective use of both oral and written foreign languages as well as to provide knowledge about culture and literature, students in all majors will advance their personal, academic, business, and professional lives through the study of foreign languages. In fact, in today’s world of global markets, political interdependence, and international scientific collaborations, knowledge of foreign cultures enhances one’s career opportunities and contributions as a citizen.

Mission Statement

The Department of Foreign Languages and Literatures 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 Languages and International Trade. Minors and foreign language teacher certification are also offered, while Chinese, Italian, Japanese, classical Greek, and Latin can be taken at the introductory and intermediate levels. Language clubs and extracurricular activities contribute to a rich campus life. Internships give students a professional experience that greatly enhances their career opportunities after graduation.

The Department offers an integrated curriculum comprising the teaching of linguistic proficiency; the promotion of a critical awareness of other cultures; the development of writing skills in a nonnative language; and an aesthetic appreciation of literary and cinematic media in their social and historical contexts. In these efforts, the Department is aided by the cutting-edge technology of its digital language laboratory. Committed to the integrated triad of teaching, research, and service in the areas of foreign languages, literatures and other cultural media, such as film, in their historical, social, and interdisciplinary contexts, the Department promotes academic pluralism by fostering a variety of interpretive and pedagogical approaches.

By virtue of its commitment to the highest standards in teaching, research, and service, the Department of Foreign Languages and Literatures aims to uphold and further strengthen the national and international standing of UAHuntsville.

Chinese*, French, German, Greek, Italian*, Japanese*, Latin*, Russian, Spanish

The Department of Foreign Languages and Literatures offers the B.A. in Foreign Languages. A student may choose a focus language of French, German, Russian, or Spanish, and may also choose to concentrate in Foreign Languages and
*Chinese, Italian, Japanese, Greek, and Latin courses can be taken to satisfy the language requirements or as electives.

**General Education Requirements and Placement Procedures**

Ten semester hours of credit in one foreign language are required for the B.A., unless the student can demonstrate a competence at a level more advanced than the beginning 101 course. The introductory sequence begins in the fall and continues in the spring semester so that students can complete the 10-hour general education requirements in one academic year. Native and quasi-native speakers of foreign language may not take introductory and intermediate courses, nor the first advanced conversation course in that language. Students in this category must make an appointment with the appropriate language coordinator to take a departmental placement examination. They must still take a minimum of three additional hours of course work to complete General Education Requirements.

**Placement Procedures**

Students with a 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, and 5) native language experience.

**Placement test.** The Department of Foreign Languages and Literatures administers a computer-based placement test for French, German, and Spanish. The test may be scheduled by phoning the Department or by visiting the language lab located in Morton Hall, Room 300.

**High school experience.** Students who studied a foreign language in high school will be placed according to the following scale:

<table>
<thead>
<tr>
<th>Placement Level</th>
<th>Language in High School</th>
<th>Courses to be Taken to Satisfy Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st level (101)</td>
<td>0-2 units*</td>
<td>101, 102 (5 hours each)</td>
</tr>
<tr>
<td>2nd level (102)</td>
<td>3-4 units</td>
<td>102 (5 hours)</td>
</tr>
</tbody>
</table>

*Maintenance grade of C required for a unit to be counted.

If an interval of two years or more occurs between study of a language in high school and continuation of that language in college, placement levels may be adjusted downward to entry level.

**CLEP Examination.** Students with a prior knowledge of French, German or Spanish may take the CLEP examination for the equivalent of FL101 and FL102. Irrespective of the resultant placement, the student will have to take a minimum of three additional hours of course work to fulfill the language requirement. The test is administered by the UAHuntsville Testing Services, located in the Business Administration Building, Room 226, and must be taken prior to enrollment in foreign language classes. Tests are given once each semester and monthly during the summer, see Testing Services for dates. Interested students should contact the respective foreign language coordinator for further information. By taking the CLEP test, a student may receive credit hours with no quality points depending on placement level and score. Since there is no CLEP test for Russian, students of that language may take a special departmental test under the same conditions as the CLEP examination. See the Russian language coordinator.
**Advanced Placement Examination.** The Foreign Language Department 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: 10 hours credit (i.e. through 102, 5 hours each course), Score of 4: 13 hours credit (through 200), Score of 5: 16 hours credit (through 301). The credit thus awarded will be recorded without grades or quality points and will not therefore, be included in the calculation of the grade point average. Moreover, regardless of the student’s AP score, he or she will be required to complete successfully one additional course (3 credit hours) of the appropriate language.

**Native Language Experience.** Native and quasi-native speakers of foreign language may not take introductory and intermediate courses, nor the first advanced conversation course in that language. Students in this category must make an appointment with the appropriate language coordinator to take a departmental placement examination. Those planning to major or minor in the language may earn up to sixteen (16) hours of credit with no grade or quality points.

**Supporting Minors and Cognates for Foreign Language Majors**

Foreign Language majors may select any minor or approved cognate offered within the University of Alabama in Huntsville. However, certain minors may enhance the student’s opportunities for certain career choices. Two of these are a minor in international business and the teacher certification designation.

**FL 101F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language I**

**FL 102F/G/N/R/S - Comparative Languages and Cultures in Practices. Communicating in a Second Language and Culture: Introductory Foreign Language II**

**FL 199 - Special Topics**

**FL 200 - Further Explorations in a Second Language and Culture**

**FL 201F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language I**
FL 202F/G/N/R/S - Further Explorations in a Second Language and Culture: Intermediate Foreign Language II

FL 204 - International Cinema (Taught in English)

FL 301 - Conversation

FL 302 - Composition

FL 303 - Foreign Language for Life and Professions

FL 304 - Culture

FL 305 - Introduction to Literature

FL 404 - Texts and Contexts: Seminar in Literature

FL 410 - International Internship

FL 499 - Independent Studies

History

409 Roberts Hall
Telephone: (256) 824-6310
Email: history@uah.edu
The Department of History offers the B.A. and M.A. degrees in history and a minor in history. The M.A. degree program is described in the Graduate Catalog.

Mission

The Department of History is committed to excellence in the areas of teaching, research and service. It offers an undergraduate B.A., as well as a minor, and a Master’s degree aimed primarily at fostering stronger middle and secondary school education in history. Since historical study embraces the entire record of human accomplishments and failures, the department’s Western Civilization sequence (HY 101, 102) and World History offerings (HY 103, 104) are a fundamental component of the General Education Requirements of the Colleges of Liberal Arts and Science. The department’s commitment to these courses reflects its belief that history’s very scope makes it an invaluable tool in interpreting the present. It illustrates the interdependence of all forms of knowledge and bridges gaps among disciplines by putting ideas into a social context and their place in time. For students who choose to pursue history as a course of study, the curriculum seeks to provide depth and perspective on complex social problems, and its critical approach to the human past cautions against simplistic solutions. Through an examination of the flow of events, historical study demonstrates how the forces of continuity and change intersect. By demonstrating the role of chance and contingency, and of purposeful activity in human affairs, historical study assists students in acquiring discrimination, understanding and balanced judgment. Students are taught that because the sheer abundance of historical documentation demands selection, interpretation, creativity, and clarity of expression to make them meaningful to the current generation, history is both an art and a science.

The History curriculum is also a component of the Foreign Language and International Trade program, and of the new Global Studies cognate. The department’s majors who complete Class A&B certificates in education meet all the requirements of the “No Child Left Behind” law. Beyond offering classes, the department actively pursues links with county and city schools for pedagogical and recruitment purposes through on-campus programs and off-campus collaboration. To sustain excellence in teaching and to foster individual professional growth, the department expects faculty to pursue activities in research and publication and to participate actively in professional organizations.

HY 101 - Western Civilization, Part I

HY 102 - Western Civilization, Part II

HY 103 - World History to 1500

HY 104 - World History from 1500

HY 202 - Current World Issues in History
HY 221 - The United States to 1877

HY 222 - The United States Since 1877

HY 229 - Survey of Ancient Times

HY 230 - The Rise of Medieval Civilizations

HY 290 - Historical Methods

HY 306 - Collapse of Civilizations

HY 318 - Constitutional History of the United States

HY 325 - History of Alabama

HY 326 - Colonial America

HY 329 - Imperial Rome

HY 341 - Modern France

HY 343 - Modern Germany
HY 347 - English History to 1660

HY 348 - English History since 1660

HY 363 - Native American History

HY 364 - The Westward Movement in American History since 1803

HY 365 - American Labor History

HY 366 - African-Americans in Twentieth Century America

HY 367 - Women in U.S. History

HY 373 - Foreign Relations of the U. S. to 1920

HY 374 - Foreign Relations of the U. S. since 1920

HY 375 - Imperial Russia

HY 376 - Soviet Russia

HY 380 - China since 1600
HY 390 - Women in Modern European History

HY 391 - Europe, 1500-1789

HY 392 - Europe Since 1789

HY 399 - Special Topics in History

HY 410 - Public History

HY 413 - The Old South

HY 414 - The New South

HY 424 - The Atlantic World

HY 427 - The Age of the American Revolution

HY 428 - The Republic in Crisis

HY 437 - The Rise of Modern America

HY 438 - Modern America
HY 439 - Recent America

HY 473 - The High Middle Ages

HY 474 - The Renaissance and Reformation

HY 475 - Crisis in Europe, 1560-1660

HY 476 - Absolutism and Enlightenment, 1660-1763

HY 477 - The French Revolution and Napoleon

HY 478 - Europe in the Nineteenth Century

HY 479 - Europe in the Twentieth Century

HY 481 - Empires and Nations

HY 485 - Nazi Germany and the Holocaust

HY 490 - Research Seminar in History

HY 498 - Readings in History
Music

206 Roberts Hall
Telephone: (256) 824-6436
Email: music@email.uah.edu

Professor Emeritus Boyer; Professor Sanders; Associate Professors Bowyer (Chair), Wray; Assistant Professors Baltaian, Colwitz, Ragsdale; Adjunct Faculty I. Weaver, P. Weaver.

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Mission

The Department of Music at the University of Alabama in Huntsville seeks to provide for music majors a program of superior quality, where all students are given the opportunity to experience music as an academic discipline and as an art form. Its academic courses foster in students an understanding of music as an art and the appreciation of the best in music literature in order to enhance and enrich their lives. Its ensembles and performance-related curricula expose students to the artistic and communicative values of music.

The Faculty of the Department of Music strives to provide leadership in artistic endeavors as well as cultural enrichment within the academic community and the participation in regional, national, and international forums.

Courses for the General Student (Non-Music Majors)

The following courses and ensembles are open to all university students; **most ensembles require an audition.** Upper-level credit is available for some courses. Students may also receive studio instruction (private lessons) in voice and in nearly every classical or jazz musical instrument.

- MU 100 Introduction to Music Literature
- MU 102 Introduction to World Music
- MUA 390 UAHuntsville Concert Choir
- MUA 391 UAHuntsville Chamber Choir
- MUA 392 Tenor-Bass Chorale
- MUA 393 Women’s Choir
- MUA 396 Chamber Ensembles
- MUA 397 University Band
- MUA 398 Jazz Ensemble
- MUA 399 UAHuntsville Wind Ensemble
- MUJ 301 Jazz Improvisation I
- MUJ 302 Jazz Improvisation II
- MUJ 396 Jazz Chamber Ensemble
MU 100 - Introduction to Music Literature

MU 102 - Introduction to World Music

MU 104 - American Music

MU 106 - Introduction to Music Technology

MU 108 - Introduction to Music Theory

MU 199 - Concert Attendance

MU 201 - Theory of Music I

MU 202 - Theory of Music II

MU 203 - Musicianship Skills I

MU 204 - Musicianship Skills II

MU 205 - Jazz Theory

MU 301 - Theory of Music III
MU 302 - Musical Materials of the Modern Era

MU 303 - Musicianship Skills III

MU 306 - Music Technology

MU 311 - History of Music I

MU 312 - History of Music II

MU 316 - History and Appreciation of Jazz

MU 317 - Jazz Arranging

MU 320 - Piano Pedagogy

MU 322 - Diction for Singers

MU 325 - Conducting

MU 330 - Music Composition

MU 399 - Special Topics in Music
MU 401 - Form and Analysis

MU 404 - Music Technology Individual Projects

MU 406 - Internship in Music Technology

MU 411 - Musicum Practicum

MU 416 - Orchestration

MU 420 - Piano Literature

MU 425 - Advanced Conducting

MUA 111 - Studio Instruction in Voice

MUA 121 - Studio Instruction in Organ

MUA 130 - Piano Class

MUA 131 - Studio Instruction in Piano

MUA 140 - Beginning Guitar Class
MUA 141 - Studio Instruction in Guitar

MUA 151 - Studio Instruction in Strings

MUA 161 - Studio Instruction in Woodwinds

MUA 171 - Studio Instruction in Brass

MUA 181 - Studio Instruction in Percussion

MUA 211 - Studio Instruction in Voice

MUA 221 - Studio Instruction in Organ

MUA 231 - Studio Instruction in Piano

MUA 241 - Studio Instruction in Guitar

MUA 251 - Studio Instruction in Strings

MUA 261 - Studio Instruction in Woodwinds

MUA 271 - Studio Instruction in Brass
MUA 281 - Studio Instruction in Percussion

MUA 411 - Studio Instruction in Voice

MUA 421 - Studio Instruction in Organ

MUA 431 - Studio Instruction in Piano

MUA 441 - Studio Instruction in Guitar

MUA 451 - Studio Instruction in Strings

MUA 461 - Studio Instruction in Woodwinds

MUA 471 - Studio Instruction in Brass

MUA 481 - Studio Instruction in Percussion

MUA 498 - Senior Recital

MUA 499 - Performance Emphasis Recital

MUE 321 - Choral/Instrumental Directed Observation
MUE 328 - Teaching General Music

MUE 428 - Vocal/Choral Methods for Secondary Schools

MUE 429 - Organizing and Directing Instrumental Groups in Secondary School

MUJ 131 - Jazz Studio Instruction in Piano

MUJ 141 - Jazz Studio Instruction in Guitar

MUJ 151 - Jazz Studio Instruction in Bass

MUJ 161 - Jazz Studio Instruction in Woodwinds

MUJ 171 - Jazz Studio Instruction in Brass

MUJ 181 - Jazz Studio Instruction in Percussion

MUJ 231 - Jazz Studio Instruction in Piano

MUJ 241 - Jazz Studio Instruction in Guitar

MUJ 251 - Jazz Studio Instruction in Bass
MUJ 261 - Jazz Studio Instruction in Woodwinds

MUJ 271 - Jazz Studio Instruction in Brass

MUJ 281 - Jazz Studio Instruction in Percussion

MUJ 301 - Jazz Improvisation I

MUJ 302 - Jazz Improvisation II

MUJ 498 - Senior Jazz Recital

MUX 386 - Jazz Chamber Ensembles

MUX 390 - UAHuntsville Choir

MUX 391 - Chamber Choir

MUX 392 - Tenor-Bass Chorale

MUX 393 - Women's Choir

MUX 394 - University Chorale
MUX 396 - Chamber Ensembles

MUX 397 - University Band

MUX 398 - Jazz Ensemble

MUX 399 - UAHuntsville Wind Ensemble

Philosophy

332 Morton Hall
Telephone (256) 824-6555
Email: philos@uah.edu

Professors Cling (Chair), Wilkerson; Martine; Associate Professors Heikes; Assistant Professor Jones.

Mission

The chief concern of the UAHuntsville Department of Philosophy is to promote the critical evaluation of the fundamental assumptions that structure the range of human experiences. Questions concerning the nature and extent of knowledge, the character of reality, the foundations of value, and the distinction between correct and incorrect reasoning can only be considered in a disciplined and responsible fashion by moving beyond an uncritical acceptance of "common sense" beliefs and mere opinions. It is the special province of philosophy to articulate these assumptions, to evaluate them, and to propose and defend alternatives, where necessary. Philosophy examines influential historical and contemporary positions on these assumptions and the problems they raise, and promotes the development and refinement of the skills necessary to address them responsibly. This kind of critical reflection is recognized as a crucial responsibility of UAHuntsville in its mission statement. As a result, the work of the faculty of the Philosophy Department has a direct and immediate effect upon the university's ability to succeed in its fundamental mission to "foster creative and critical thinking, clear communication, a respect for knowledge and the pursuit of truth, and an engagement in the challenge and pleasure of a lifetime of learning." Moreover, the success of a democratic society depends upon the ability of its citizens and leaders to participate in an informed and serious debate about the issues around which the philosophy curriculum is structured.

Our primary goal is to educate our students in ways that enable them both to understand and to accept their responsibilities as citizens and future leaders and to succeed in their professional lives in any of the various areas for which undergraduate education in philosophy prepares them. Since this goal can only be attained by a faculty that is actively engaged in philosophical inquiry, it is also our goal to promote the active development and dissemination of high-quality research. We therefore expect every member of the department to be actively engaged in the production and publication of original philosophical works. The Department also takes seriously its service responsibilities to the community and therefore promotes educational activities and programs for the university and larger community.
PHL 101 - Introduction to Philosophy

PHL 201 - Introduction to Logic

PHL 202 - Introduction to Ethics

PHL 301 - Ancient Philosophy

PHL 302 - Modern Philosophy

PHL 303 - Contemporary Philosophy

PHL 310 - Philosophy of Art

PHL 311 - Philosophy of Science

PHL 312 - American Philosophy

PHL 314 - Philosophy of Eastern and Western Religions

PHL 317 - Philosophy of Mind

PHL 320 - Symbolic Logic
PHL 330 - Classical Political Philosophy

PHL 332 - Modern Political Philosophy

PHL 335 - Philosophy of Gender

PHL 385 - Selected Topics in the History of Philosophy

PHL 395 - Junior Research Seminar

PHL 399 - Directed Study in Philosophy

PHL 401 - Metaphysics

PHL 402 - Epistemology

PHL 403 - Advanced Moral Philosophy

PHL 415 - Biomedical Ethics

PHL 438 - Contemporary Political Thought

Political Science
Mission

The Department of Political Science, along with the Departments of Sociology and Psychology, represent the Social Sciences in the College of Liberal Arts. Our curriculum provides a major and a minor in traditional political science with courses offered on American government, comparative politics, international relations, political theory, and American law. The department also offers a graduate program in public affairs. Faculty members are committed to effective teaching, active public service, and both traditional and applied scholarship.

The Department of Political Science offers the Bachelor of Arts in political science and the Master of Arts in public affairs.

Political science is the study of government, governance, politics, and the state. The major sub-fields of the discipline include political theory and philosophy, international relations, foreign governments and comparative politics, public law, research methods, public policy, and American politics. The latter includes national, state, and local political institutions and processes, federalism, and intergovernmental relations.

Internship Programs

The Department of Political Science has an internship option for students in political science and public affairs. Internships bridge the gap between learning experience and entry into professional life. Normally, students must have junior status or above to be considered for this option.

PSC 101 - American Government

PSC 102 - Comparative Politics and Foreign Governments

PSC 103 - State and Local Government

PSC 260 - Introduction to International Relations

PSC 280 - Special Topics I
PSC 302 - The American Congress

PSC 304 - American Presidency

PSC 309 - Political Parties and Interest Groups

PSC 330 - Classical Political Philosophy

PSC 332 - Modern Political Philosophy

PSC 334 - American Political Thought

PSC 340 - Government and Politics of Industrializing & Post Industrial Countries

PSC 341 - Government and Politics of Modernizing Countries

PSC 416 - Alabama & Southern Politics

PSC 418 - Urban Politics

PSC 420 - Federalism and Intergovernmental Relations

PSC 436 - Political Ideologies
Psychology

335 Morton Hall
Telephone: (256) 824-6191
Email: psychol@uah.edu

Professor Carpenter, Associate Professors Neuschatz, Seemann; Assistant Professors Price, Torres.

The Department of Psychology offers the 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 UAHuntsville, the psychology department is small and very student-centered. Students may take courses in clinical, experimental, social, developmental, cognitive, perceptual,
biological, personality, industrial, and counseling psychology. In particular, students are required to gain an appreciation of the methods and tools used by psychologists to perform research. Our capstone course in supervised research allows majors to demonstrate those skills working with individual faculty members.

Mission

The focus of the Department of Psychology is threefold: teaching, scholarship, and service. Consequently, the mission of the department centers upon 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 UAHuntsville.

The Department of Psychology supports the Mission of the College of Liberal Arts 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.

PY 101 - General Psychology I

PY 102 - Applications in Psychology

PY 201 - Life-Span Development

PY 300 - Psychological Statistics

PY 301 - Personality

PY 302 - Experimental Psychology
PY 314 - Learning

PY 315 - Developmental Psychology

PY 316 - Perception

PY 317 - Philosophy of Mind

PY 324 - Work Design

PY 330 - Nonverbal Communication

PY 375 - Social Psychology

PY 380 - Cognition

PY 399 - Professional Development for Psychology Majors

PY 402 - Industrial and Organizational Psychology

PY 403 - Human Factors Psychology

PY 405 - Psychopharmacology
PY 406 - Psychology of Women

PY 407 - Cross-cultural Psychology

PY 420 - Special Topics

PY 422 - Individual Research

PY 426 - History and Systems in Psychology

PY 433 - Abnormal Psychology

PY 434 - Psychology and Law

PY 436 - Biological Psychology

PY 437 - Psychobiology of Stress and Illness

PY 490 - Readings in Psychology

PY 491 - Special Topic in Psychology

PY 492 - Special Topic in Psychology
PY 498 - Human Research I

PY 499 - Human Research II

Sociology

344 Morton Hall
Telephone: (256) 824-6190
www.uah.edu/sociology

Associate Professors: Berbrier (Chair), Finley, Sitaraman; Assistant Professors: Jones, Smith.

Sociology is the study of social forces that shape our lives. Sociologists explore social relations within a wide range of institutions, including the family, education, religion, the economy, and politics, as well as within groups, communities, and organizations. The best sociological analyses combine a focus on important details with analyses about how the details relate to “the big picture.” This is why rigorous training in sociology can be usefully applied to careers in business, government, non-profit and charitable organizations, and education: on the one hand our students can become skilled at research and data analysis, and on the other hand they can become proficient at interpreting and critically analyzing how these details relate to the larger issues confronting the organizations in which they are working.

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 UAHuntsville Department of Sociology offers the B.A. with a major in sociology, a minor in sociology, and sociology as a Second Area of Study for Elementary Education Teacher Candidates. In addition to the one-on-one counseling that we offer, the Department has also produced a series of pamphlets designed to inform students about sociology, our program at UAHuntsville, and current course offerings. These include:

- Why Study Sociology? A Practical Guide
- Career Information for the Sociology Student
- Student Advising Guidelines for the Department of Sociology

… and more. They are available free of charge from our office. Please also visit our website for further information on the department: www.uah.edu/sociology

SOC 100 - Introduction to Sociology
SOC 102 - Analysis of Social Problems

SOC 105 - Introduction to Cultural Anthropology

SOC 202 - Research Methods

SOC 206 - Marriage and Family

SOC 302 - Sociological Theory

SOC 303 - Statistics for the Social Sciences

SOC 306 - Sociology of Gender

SOC 319 - Deviance and Social Control

SOC 325 - The Sociology of Education

SOC 330 - Race and Ethnicity

SOC 340 - Special Topics

SOC 350 - Social Stratification
SOC 375 - Social Psychology

SOC 376 - Mass Media in America: Theory and Criticism

SOC 390 - Readings and Individual Research

SOC 410 - Sociology of Childhood

SOC 415 - Cultural Change

SOC 435 - Sociology of Social Movements

SOC 439 - Complex Organization in Industrial Society

SOC 440 - Sociology of Religion

SOC 444 - Sociology of Culture

SOC 455 - Sociology of Work and Occupations

SOC 480 - Sociology of Science and Technology

Nursing
210 Nursing Building  
Telephone: (256) 824-6345  
Email: nursing@uah.edu

Dean:  
C. Fay Raines, B.S.N., M.S.N., Ph.D., Professor

Associate Dean:  
Pamela O’Neal, B.S., B.S.N., M.S.N., Ph.D., Associate Professor

Professor:  

Associate Professor:  
Anderson, Frith, Hays, Newman, O’Neal, Talley

Clinical Associate Professor:  
Browning, Herrin-Griffith, McClellan, Showalter

Assistant Professor:  
Foote, Hoy

Clinical Assistant Professor:  
Adams, Alexander, Baginski, Beck, Bianchi, Bonilla, Byrum, Ferguson, Foote, Herrin, Hobson, Lioce, O’Keefe, Peveler, Primeau, Warboys

Clinical Instructor:  
Bacon, Barnby, Benjamin, Benton, Boctor, Clemmons, Davis, Gilliam, Pabst, Patliff, Reynolds, Statham, Thompson

Mission

The fundamental purpose of the College of Nursing is to prepare clinically excellent baccalaureate and graduate level nurses to deliver health care services to a culturally diverse population within a variety of health care settings. Our graduates practice as professionals, able to utilize critical thinking skills for therapeutic interventions, disease prevention and health promotion. The graduate, undergraduate and continuing education programs provide opportunities for participation in collegial, interdisciplinary learning activities that promote intellectual development and life-long learning. In support of the mission of the University, the College of Nursing, through its graduates, faculty activities, and programs, contributes to the health and well-being of the community.

Overview

The College of Nursing offers the Bachelor of Science in Nursing, the Master of Science in Nursing, the Doctor of Nursing Practice, a Post-Master’s Family Nurse Practitioner Certificate, and a Graduate Certificate in Nursing Education. The College of Nursing is dedicated to excellence in teaching, practice, scholarship, and service. Faculty have the responsibility to educate students of nursing as well as to provide continuing education, to engage in scholarly activities that will develop and extend the discipline of nursing, and to provide service to the nursing profession, the community, and the academic environment in which nursing study resides.

Philosophy

The College of Nursing Faculty believes that nursing is both an art and a science. We believe nursing focuses on holistic health and wellness among individuals, families, and communities in the context of cultural, environmental, and spiritual diversity. The College promotes nursing knowledge through teaching, research, and service. The diversity and complexity of changing health care systems requires critical thinking and life-long learning.
Nursing Education occurs within a broad theoretical and research based curriculum to address health care issues for individuals or groups with emphasis on delivery systems or health promotion and disease prevention. Implicit in this is an understanding and appreciation of human diversity in health and wellness.

The faculty serve as facilitators and models of competence in nursing practice. We are dedicated to advancing the art and science of nursing. We participate in teaching, research, and service to our students and community. We maintain the advancement of new knowledge through research.

**Undergraduate Program Objectives**

1. Practice nursing at the entry level based on ethical, legal, and professional standards.
2. Utilize the nursing process for promoting, maintaining and restoring health with diverse populations in a variety of settings.
3. Apply knowledge and use critical thinking as a generalist in professional practice.
4. Demonstrate leadership, accountability and flexibility in collaboration with multidisciplinary health care systems.
5. Engage in life-long learning and participate in activities that enhance the discipline of nursing.

**Accreditation**

The Bachelor of Science in Nursing (BSN) and the Master of Science in Nursing (MSN) programs offered by the College of Nursing are accredited by the Commission on Collegiate Nursing Education (CCNE). The undergraduate program is also approved by the Alabama Board of Nursing.

**Degrees and Certificates Offered**

The College of Nursing offers bachelor’s, master’s, and doctor of nursing practice degree programs, as well as a Post-Master’s Family Nurse Practitioner Certificate Program, and a Graduate Certificate in Nursing Education. The bachelor’s program includes a track for students who are completing their initial nursing education as well as a track for students currently licensed as registered nurses.

**Graduate Degrees and Study**

The Master of Science in Nursing degree is awarded upon successful completion of one of five tracks at the master’s level. Students have the opportunity to become family nurse practitioners, acute care nurse practitioners, adult clinical nurse specialists, clinical nurse leaders or leaders in a variety of health care systems. The curriculum for all tracks builds on core content in theory and research. Additional courses such as health policy, case management, health care informatics, advanced health assessment, pathophysiology, and pharmacology are used to strengthen knowledge and practice skills in the appropriate area of study. Practice sites for clinical courses are individually arranged with the student.

Students who successfully complete their program of study are eligible to sit for the national certification examination in their area of expertise.

The University of Alabama in Huntsville (UAHuntsville) College of Nursing offers a joint doctor of nursing practice (DNP) program with the University of Alabama and the University of Alabama at Birmingham.

The DNP degree is an advanced practice degree, preparing nurses at the highest levels of specialty practice. It will help meet the challenges facing the nation due to advancing technology, a diverse and aging population, growing numbers
of the chronically ill, and an increasingly complex health care system. It is designed to prepare nurses to face the ever-changing future of health care and the needs of the population.

More detailed information about opportunities for students seeking graduate degrees and certification may be obtained from the College of Nursing Office of Graduate Programs (256) 824-6669.

**Distance Learning**

The mission of the College is to provide excellence in teaching, research and service while providing unique opportunities and creative, flexible programs for students, faculty and the community. Distance learning and the use of other new educational technologies are part of the future in the continuing mission.

The College of Nursing offers the RN to BSN program online via the web. This allows students at distant geographical sites to actively participate in class and clinical learning activities.

**Computer Literacy**

The College of Nursing acknowledges that health care delivery systems are evolving at an accelerated rate and becoming increasingly reliant on computer technology. Computer literacy is rapidly becoming a basic communication skill. Prior to enrolling in nursing courses, it is suggested that students familiarize themselves with basic computer skills. Students must be able to use a computer to log on to their email account to communicate with other students and faculty. They must be able to log on to the Internet and Angel to access class content, class announcements, class/clinical schedule changes, and perform Internet searches for health care related materials.

**Facilities**

The College of Nursing utilizes the facilities and resources of the entire university, the community, and health care agencies. The college is housed in a four-story building centrally located on the UAHuntsville campus. Classrooms equipped with current educational technology as well as the Learning Resource Center, which is located in Wilson Hall, assist students to learn in multiple ways.

The College of Nursing maintains contracts with over 600 health related agencies to offer a wide range of clinical sites for student educational experiences. Two hospitals, Crestwood Medical Center and Huntsville Hospital, with a combined capacity of more than 1,000 beds are located in Huntsville. In addition, the local area includes a Department of Health, skilled nursing homes, home health agencies, and the University of Alabama at Birmingham Medical Clinics-Huntsville Campus which also partner with the College to provide clinical sites. Other hospitals, clinics, physicians’ offices, and rural health clinics across Alabama and southern Tennessee are also used for student experiences.

**Transportation**

Clinical learning experiences are varied in settings and are located within Huntsville and surrounding communities. Students are expected to travel to and from all clinical experiences. Students are responsible for providing their own transportation and carrying appropriate insurance. The College of Nursing is not liable for any traffic violations or auto mishaps during student commutes.

**Service and Scholarship**
In addition to its teaching mission of providing quality education for students, the College of Nursing provides continuing education for nurses. Educational programs may be offered at the College of Nursing or at individual health care agencies. The faculty and students of the college are committed to the provision of services for the people of Huntsville and surrounding communities. These activities are focused on the improvement of health and healthy behaviors and include such activities as health fairs and screenings.

Faculty and students also conduct and disseminate research to address issues in health care from health policy initiatives and the delivery of services to specific clinical problems. Faculty are also active in the provision of consultative services to a variety of health care agencies and educational institutions.

Advising and Assistance

The focus of advising in the College of Nursing is to assist students to successfully progress toward their educational objectives. The baccalaureate degree program is divided into two components: the lower division and the upper division. All pre-admission and lower division students are advised in the College of Nursing Office of Undergraduate Programs, located on the second floor of the Nursing Building. All students, including registered nurse students, planning to apply for transfer admission from other institutions are also encouraged to meet regularly with a nursing advisor. Advisors in the Nursing 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 they maintain advising records for each student. Advisors also refer students to other campus resources when needed.

Faculty advisors assist students in completing a plan of study for their upper division work and provide guidance for future employment or educational endeavors. Faculty advisors work closely with students to promote success in the nursing program.

All students sign and complete a program of study (POS), which is an official indication of planned course sequence. Students wishing to change their program of study must consult the Associate Dean of Undergraduate Programs and sign an updated POS. The student will only be guaranteed seats in the nursing program based on the signed program of study on file. If a student does not progress sequentially as outlined in the program of study, permission to depart from the sequence must be obtained from the Undergraduate Associate Dean. Departure from the sequence for any reason may significantly lengthen the time for program completion and jeopardize the students’ performance on the NCLEX-RN exam due to currency of information. Students are encouraged to complete the program of study within two years to be most successful in the program and the career of nursing.

Admission Policies

Admission as a Freshman

Entering UAHuntsville freshmen interested in nursing as a career must meet the general entrance requirements of the university. Each lower division student interested in nursing as a career is advised in the College of Nursing Office of Undergraduate Programs. Students enrolled in the lower division of the college should meet with an advisor in planning a program of study. The program of study will ensure that each student registers for the correct prerequisite courses for the upper division major. Students must meet with a nursing advisor each semester prior to registration. Students must complete all lower division general studies (prerequisites) courses prior to enrolling in the upper division of nursing. For information and assistance, call the College of Nursing Office of Undergraduate Programs (256) 824-6742.

Admission into the upper division nursing major is competitive. A separate application for the upper division of the nursing major must be submitted by published dates, on forms provided by the College of Nursing. Each year’s junior class is selected from all applicants who meet the minimum requirements. Once admitted to the upper division, each student will be assigned a faculty advisor in the College of Nursing.
Admission as a Transfer Student

All transfer students seeking admission to UAHuntsville should read and follow the Admissions Information section of this catalog. Specific UAHuntsville courses that satisfy admission requirements are listed under the Baccalaureate Program of Studies later in this section of the catalog. All transfer students are encouraged to complete courses equivalent to those listed in that summary. Students transferring from Alabama two-year colleges should follow the general studies curriculum approved by the Articulation and General Studies Committee (AGSC). A copy of this curriculum is available in the UAHuntsville Office of Admissions. Articulation requirements, as they relate to the nursing major, are provided below:

Area I. Written Composition (6 semester hours).

Area II. Humanities and Fine Arts (12 semester hours).

Requirements include a minimum of 3 semester hours in literature, 3 semester hours in the arts, and the remaining 6 semester hours from either the humanities or arts. Disciplines in the humanities include, but are not limited to, philosophy, religious studies, speech, foreign languages, art, music, theater, and dance. As part of the general studies curriculum, students must complete a 6 semester hour sequence in either literature or history.

Area III. Natural Sciences and Mathematics (11 semester hours).

Requirements include a minimum of 3 semester hours in mathematics; finite, precalculus, or higher. Students transferring to the nursing major must complete a course in inorganic chemistry (including lab) and an additional science course with a lab in either biology, chemistry or physics.

Area IV. History, Social, and Behavioral Sciences (12 semester hours).

Requirements include a minimum of 3 semester hours in history, 3 semester hours in psychology and the remaining 6 semester hours from among other disciplines in the social and behavioral sciences. Disciplines include, but are not limited to, anthropology, economics, geography, political science, psychology, and sociology. As part of the general studies curriculum, students must complete a 6 semester hour sequence in either history or literature.

Area V. Pre-Professional, Major and Elective Courses (19-23 semester hours).

Students entering the nursing major must complete 6-8 semester hours in human anatomy and physiology (with lab) and 3-4 semester hours in microbiology (with lab). Students entering the nursing major at UAHuntsville must also complete a minimum of 3 semester hours in statistics, 3 semester hours in human growth and development and elective hours to meet the 19 hour minimum in Area V.

The specific credit for work completed at other institutions and applied to the courses for admission to the College of Nursing is determined by the College of Nursing Office of Undergraduate Programs. Courses taken at community or junior colleges may satisfy lower division prerequisite course requirements; courses taken at other four year institutions may meet prerequisite and upper division course requirements.

Admission to the Upper Division

The upper division includes the clinical component of the nursing curriculum. Students must apply and be admitted to the nursing program to be eligible to enroll in upper division or level 300 and 400 courses. In order to be considered for admission to the upper division nursing major, students enrolled at UAHuntsville must complete a separate nursing application, which is available through the College of Nursing Office of Undergraduate Programs or online. Transfer students must first apply to UAHuntsville through the Office of Admissions and then complete the separate nursing application available through the College of Nursing Office of Undergraduate Programs. Admission to the upper division is highly competitive and spaces are limited. When the number of students applying to the upper division
exceeds the number of spaces available, the most qualified applicants will be admitted. Those applicants who present the strongest academic records and who show the most promise for success in the upper division will be admitted. UAHuntsville students who have completed 30 or more hours at UAHuntsville will be given priority consideration for admission over transfer students.

Admission of Non-Licensed (Basic) Students

1. Applicants for admission to the upper division for non-registered nurses are competitive. Each year’s junior class is selected from applicants who meet the minimum requirements:
   a. Minimum grade of “C” on all required general studies prerequisite coursework as listed under Baccalaureate Program of Studies.
   b. Completion of all lower division general studies (prerequisite) course requirements with a minimum of 59 hours of credit.
   c. Status of good academic standing.
   d. In addition to meeting other admission requirements, students seeking transfer from the upper division of another nursing education program must submit a letter of good standing indicating that the student is in good standing and 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.

2. Students who have earned 30 semester hours of coursework at UAHuntsville by the application deadline for the term for which they are applying, and whose cumulative prerequisite GPA is 3.0 or higher qualify for priority admission consideration. An application for the upper division nursing major must be completed and submitted to the College of Nursing Office of Undergraduate Programs by March 1 for fall admission and by September 1 for spring admission. Applications are available from the College of Nursing Office of Undergraduate Programs and online. Students are admitted twice a year for fall and spring semesters. Students who wish to be considered for scholarships should apply prior to December 1.

Admission of Registered Nurse Students

1. Admission to the upper division nursing major for registered nurse students is selective. Each year’s class is selected from students who meet minimum requirements:
   a. Minimum grade of “C” on all required prerequisite coursework.
   b. Completion of all lower division general studies (prerequisite) course requirements as listed under Baccalaureate Program of Studies, with a minimum of 59 hours of credit.
   c. Graduation from an associate degree nursing program or a diploma program in nursing.
   d. Status of good academic standing.

2. An application to the upper division nursing major for registered nurse students must be completed and submitted to the College of Nursing Office of Undergraduate Programs by April 15. Applications received after the deadline will be considered on a space available basis. Students who wish to be considered for scholarships should apply prior to December 1.

3. Registered nurse students must be licensed or eligible for licensure at the time of application. Licensure must be obtained prior to beginning the program. If a student is permitted to meet course clinical requirements in a state other than Alabama, the student must be licensed in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. Licensure must be maintained throughout the program.
Requirements for Enrollment for Admitted Students

1. Evidence of CPR (Basic Life Support for the Healthcare Provider through the American Heart Association) certification and recertification must be received by the College of Nursing Office of Undergraduate Programs by published deadlines for progression in the program.

2. Professional Liability requirements:
   a. All unlicensed students must pay for required professional liability insurance by published deadlines. Unlicensed students are included in a policy available through the College of Nursing and students will receive information about the amount and method of payment in early summer. Liability insurance must remain current until graduation.
   b. All registered nurse students must individually obtain and present evidence of current professional liability insurance. The insurance must remain current until graduation.

3. Students are required to undergo drug testing and criminal background check prior to enrollment in nursing courses and for cause at other points. Information and procedures are provided upon admission and prior to each academic year. If the College deems the drug testing and or background check information to be unsatisfactory, acceptance or enrollment into the College may be denied or an offer of acceptance rescinded. If a student’s acceptance or enrollment is denied or rescinded based on the information obtained from a criminal background check report, the student will be advised of the name and address of the consumer reporting agency that furnished the report, and of the right to dispute the accuracy and completeness of any information contained in the report by contacting the consumer reporting agency directly. If the College decides, based upon the individual’s written description, explanation and documentation about information obtained in the criminal background check, that the results of the check are deemed to be satisfactory, the individual shall be informed that the College’s positive decision is not a guarantee that every clinical facility will permit the student to participate in educational clinical experiences at that facility or that any state will accept the individual as a candidate for registration, permit or licensure. Convictions of pleas of guilty of, pleas of nolo contendere (no contest) to, any criminal charges, or any pending criminal charges are grounds for dismissal from the College of Nursing. Any crimes involving violence against the person including but not limited to: murder, manslaughter, use of deadly force, assault and battery (other than simple), sex crimes, abuse of children or the elderly, abduction, or robbery at any time prohibit a student from admission or progression in the Nursing Program. The Associate Dean will inform any disqualified student, and the student will not be allowed to continue in any Nursing Program.

4. Registered nurse students must submit proof of an unencumbered current license. If a student is permitted to meet course clinical requirements in a state other than Alabama, the student must be licensed in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. An unencumbered license must be maintained throughout the program.

5. Recent graduates of associate degree or diploma nursing programs who are not yet licensed will be permitted to complete lower division coursework, but will not be admitted to the upper division clinical component of the program until they are licensed.

6. Essential functions 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:
   a. Critical thinking ability sufficient for clinical judgment. Examples (not all inclusive) of necessary activities include identifying cause-effect relationships in clinical and classroom situations; and developing nursing care plans.
   b. Interpersonal abilities sufficient to interact with individuals, families, and groups from various social, emotional, cultural and intellectual backgrounds. Examples (not all inclusive) include the ability to establish rapport with patients/clients and colleagues.
   c. Communication abilities sufficient for verbal and written interaction with others. Examples (not all inclusive) include explaining treatment procedures, initiating health teaching, and documenting and interpreting nursing actions and patient/client responses.
d. Mobility abilities sufficient to move from room to room and maneuver in small spaces. Examples (not all inclusive) include moving around in clients’ rooms, work spaces and treatment areas; and administering cardiopulmonary procedures.

e. Gross and fine motor abilities 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 positioning clients.

f. Auditory ability sufficient to monitor and assess health needs. Examples (not all inclusive) include hearing basic conversation; monitoring alarms, emergency signals and auscultatory sounds; and hearing cries for help.

g. Visual abilities sufficient for observation and assessment necessary in nursing care. Examples (not all inclusive) include reading documents 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 color changes and nonverbal communication.

h. Tactile abilities sufficient for physical assessment. Examples (not all inclusive) include performing palpation, percussion, temperature changes, complete physical examinations and other activities related to therapeutic interventions.

i. Behavioral/Social abilities sufficient to demonstrate emotional stability, maintenance or composure under stress, development of mature, empathetic and effective nurse-patient relationships and use of sound and unimpaired judgment in classroom and clinical activities.

These essential functions 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 essential functions are revised and adopted from the Americans with Disabilities Act: Implications for Nursing Education (reapproved 2004) by the Southern Regional Education Board and the Council on Collegiate Education.

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 practice of registered and nursing 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) Failure to produce evidence of good moral character such as having a criminal history or pattern of illegal conduct or disregard for the law; (3) Any other reasons authorized by law.

Failure to comply with any of the Alabama Board of Nursing rules 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 review of candidates for eligibility for initial and continuing licensure.

Health Requirements

The clinical experiences of nursing students require a health-screening program. The following steps are required as part of admission and enrollment in the upper division nursing major:

1. Each student is required to have a health examination by a physician or a certified nurse practitioner. Reports of the results of this examination must be submitted on forms provided by the College of Nursing and must
be received by the College of Nursing Office of Undergraduate Programs by published deadlines. Individual clinical agencies may require additional documentation for specific health requirements which must be met by the students.

2. Each student must be immunized for Hepatitis B. For initial enrollment, certification that the series of injections has begun or results of a recent titer must be received by the College of Nursing Office of Undergraduate Programs by published deadlines. Documentation of the completed series is required for continued enrollment and must be received by the College by published deadlines. Immunizations and titers are at the expense of the student.

3. Each student is required to be immunized against measles, mumps, rubella, rubeola, and varicella. Documentation of current immunization, physician’s or nurse practitioner’s statement copy of recent titer results must be received by the College of Nursing Office of Undergraduate Programs by the published deadlines. Immunizations and titers are at the expense of the student.

4. Each student is required to have a 2-step PPD (Tuberculosis/TB) skin test less than one year old by published deadlines. If a PPD test is positive, a chest X-ray is required. Evidence of annual testing or results of a recent chest x-ray are required. Testing expenses are the responsibility of the student. Documentation of the test results must be received by the College of Nursing Office of Undergraduate Programs by published deadlines.

5. Documentation of current health insurance must be received by the College of Nursing Office of Undergraduate Programs by the published deadlines. Hospitals and health agencies provide emergency treatment to students for injury or illness occurring in the course of program requirements in their agencies. Such treatment will be at the expense of the student. Students are required to maintain health insurance throughout the program.

6. Other health requirements may be implemented based on community or clinical agency requirements.

Financial Aid

The University Financial Aid Office, located in the University Center, provides financial aid information and assists students in meeting individual needs.

Upper Division Progression and Graduation Requirements

All students must meet UAHuntsville requirements for progression and graduation. In addition, there are the following requirements for the College of Nursing:

1. An overall “C” (2.0) average on all courses taken at UAHuntsville is required for graduation.
2. A grade of “C” or above must be earned in all required nursing courses. A student who receives a grade below “C” in a required nursing course may repeat the course only once. The following are required nursing courses for nonlicensed students: NUR 302, 303, 304, 305, 307, 308, 310, 321, 401, 402, 403, 404, 405, 406, 407, 408. Required courses for registered nurse students are: NUR 339, 410, 411, 412, 413, 414, 419, and 420. 32 hours of validated credit is applied after successful completion of NUR 410. These hours are applied towards the upper division curriculum for a total completion of 69 hours.
3. Any student who withdraws from or does not successfully complete a course for academic or nonacademic reasons as prescribed on the program of study, must contact the Associate Dean of Undergraduate Programs to develop a revised program of study based on space-availability and progression constraints. Before considering placement of any students who have not succeeded in the 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.
4. A student who receives two grades below “C” in required nursing courses, in either the same course or in separate courses, at any time during the program will not be permitted to continue in the College of Nursing. This requirement also applies to non-admitted students who are enrolled in non-clinical courses with NUR
prefixes prior to admission to the upper division nursing major. Students who wish to continue their nursing education may petition for readmission to the College of Nursing. Readmission request letters are written to the College of Nursing, Director of Undergraduate Programs. A committee will review the petition and evaluate an identified plan for success written by the student, reasons for past academic failure, and overall academic performance. Each student is individually reviewed for potential readmission. Students who are readmitted and subsequently earn another grade below “C” in any nursing course will be permanently dismissed from the program.

5. 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.

6. Non-licensed 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. Students are required to earn a passing score on the examination in NUR 408 Professional Practice in Nursing III Seminar to successfully complete this course. Failure to satisfactorily complete the standardized examination in this course may delay the student’s completion and graduation from the program.

7. 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 UAHuntsville Student Handbook.

8. Throughout the program, students must meet health and other requirements as identified in the Enrollment Requirements section above, as well as requirements specified in clinical agency contracts.

9. Registered nurse students must maintain an active and unencumbered license throughout the program. Clinical experiences in states other than Alabama require an active license in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. Students must notify the College of Nursing if there is a change in license status.

10. Any requests for exceptions to progression and graduation requirements must be addressed in writing to the Associate Dean for Undergraduate Programs.

Responsibility to 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 this requirement may lead to exclusion from required clinical educational experiences and prevent completion of the program.

NUR 201 - Multidimensional Aspects of Health Care Career Options

NUR 302 - Nursing and Health Promotion

NUR 303 - Health Assessment

NUR 304 - Applied Pathophysiology Across the Lifespan
NUR 305 - Nursing Process for Mental Health and Illness

NUR 307 - Scholarly Inquiry in Nursing

NUR 308 - Nursing Care of Adults with Alterations in Health I

NUR 310 - Professional Practice in Nursing I

NUR 321 - Pharmacology in Nursing

NUR 336 - Spirituality in Nursing

NUR 339 - Introduction to Computers in Nursing

NUR 390 - Independent Study

NUR 401 - Nursing Care of Adults with Alterations in Health II

NUR 402 - Population Based Health Care

NUR 403 - Family-Centered Parent-Infant Nursing

NUR 404 - Family-Centered Nursing Care of Children
NUR 405 - Community Health Nursing

NUR 406 - Leadership and Management in Nursing

NUR 407 - Professional Practice in Nursing II

NUR 408 - Professional Practice in Nursing III Seminar

NUR 410 - Transition into Professional Roles

NUR 411 - Theoretical Applications in Nursing Practice

NUR 412 - Caring for Families, Aggregates and Populations: Theoretical Applications

NUR 413 - Nursing Leadership in Professional Practice

NUR 414 - Health Assessment for the Practicing Professional Nurse

NUR 415 - Honors Directed Research

NUR 416 - Honors Research Seminar

NUR 418 - Global Health Studies
NUR 419 - Scholarly Inquiry in Nursing

NUR 420 - Evidence Based Nursing Practice

NUR 426 - Space Life Sciences

NUR 427 - Introduction to Forensics

NUR 428 - Gerontological Nursing

NUR 430 - The Healthcare Workforce -- Issues and Leadership Strategies

NUR 434 - Death and Dying

NUR 437 - Nursing as a Political Force

Science

C207 and 206 Materials Science Building
Telephone: (256) 824-6605
Email: science@uah.edu
Web Site: http://science.uah.edu

Dean:
John D. Fix, B.S., M.A., Ph.D., Professor of Physics

Associate Dean:
Daniel M. Rochowiak, B.S., Ph.D., Associate Professor of Computer Science

Mission
The College of Science at UAHuntsville is dedicated to providing high-quality undergraduate and graduate education in science and mathematics, maintaining an environment that promotes internationally recognized faculty research programs, and providing service to the university, state, and regional communities as a source of scientific and mathematical expertise.

**Accreditation**

The B.S. degree program in Computer Science offered in the College of Science has been fully accredited by the Computing Accreditation Commission of ABET since 1989. In addition, the chemistry department offers American Chemical Society approved curricula in chemistry and biochemistry.

**Facilities/Services**

The College of Science consists of six academic departments: Atmospheric Science, Biological Sciences, Chemistry, Computer Science, Mathematical Sciences, and Physics. Programs are administered by these six departments and the Office of the Dean. In addition, faculty in the college are associated with the campus research centers including the Center for Applied Optics, Center for Automation and Robotics, Earth System Science Center, Global Hydrology and Climate Center, Information Technology and Systems Center, Center for Microgravity and Materials Research, Center for Space Plasma and Aeronomic Research, Laboratory for Materials and Surface Science, Laboratory for Structural Biology, the Consortium for Materials Development in Space and the National Space Science and Technology Center. The College of Science in conjunction with the Department of Mathematical Sciences oversees the Math Learning Center, located in the Salmon Library.

**Degrees and Programs**

The College of Science offers a broad spectrum of programs and intellectual experiences designed to meet various educational, vocational and professional goals. Students may plan programs of study leading to career opportunities in computational, mathematical, biological, and physical sciences or as background requirements for professional studies in medical fields, engineering and education. The College also offers a variety of courses which provide basic science support to other disciplines. Students receive assistance from the faculty in preparing and planning for advanced studies and in planning and carrying out research projects to enhance their course work. There are abundant opportunities for undergraduate students to engage in original scientific research, often resulting in a scientific publication or presentation at a scientific meeting. By encouraging intellectual, as well as technical development, the faculty seeks to introduce students to scientific inquiry as an orderly thought process.

The College of Science awards the Bachelor of Science and the Bachelor of Arts Degrees. Majors are offered in biological sciences, chemistry, computer science, mathematical sciences, and physics. Secondary education teacher preparation programs are available in biology, chemistry, mathematics, physics and general science. A certificate program in environmental science is available to undergraduates majoring in science or mathematics and to individuals already holding degrees in a science discipline. Students may also combine a minor in atmospheric science with any of our majors.

**Degree programs**

Biological Sciences  B.S., B.A.
Graduate Degrees and Study

The College of Science offers graduate programs leading to the Master of Science degree in atmospheric science, biological sciences, chemistry, computer science, materials science, mathematics, and physics, to the Master of Science in Software Engineering, and to the Master of Arts degree in mathematics. Doctoral programs are offered in applied mathematics, atmospheric science, computer science, and physics. Graduate certificate programs are offered in environmental science, software engineering, and information assurance. Interdisciplinary programs, offered through the Colleges of Science and Engineering, provide the opportunity to earn a Doctor of Philosophy degree in Biotechnology Science and Engineering, Optical Science and Engineering, or Materials Science. For graduate course offerings and programs, please refer to the Graduate Catalog.

College of Science Academic Advisor

Morgan Lewis, B.S., MS
C206 Materials Science Building
256-824-2505
email: lewism@uah.edu

The College of Science full-time advisor assists undergraduates in course selection and scheduling until such time that the student selects and declares their major, typically during the sophomore year. At that time the college advisor and student begin preparation of a program of study. The student is then assigned to a faculty advisor by his or her major department who will continue to assist him or her in development of a program of study and in monitoring progress to graduation. The college advisor also assists students in understanding the general education requirements, graduation requirements and assists them in locating appropriate academic assistance as needed.

Academic Regulations and Policies

Health and Physical Education Courses

Students who major in the College may count a maximum of four semester hours of health and physical education activity courses toward their requirements for graduation. HPE courses at the 200 level or greater are “professional courses” and are not counted toward the maximum number of credit hours for activity courses.

Requirements for Programs of Study Leading to the B.S. Degree

Candidates for a B.S. degree must satisfy the General Education Requirements set forth below, complete the requirements for a major in a program offered by one of the departments in the College of Science, and complete the
requirements for either a minor or cognate studies (see disciplines for specific requirements). Students are required to have a C average overall, a C average in their major, and a C average in their minor or cognate studies for UAHuntsville courses. The major and minor or cognate averages will be calculated based on at least the courses listed in the Program of Study. Additional courses completed in the discipline may, but need not, be included in calculating these averages. Only courses which the student completes with a grade of D or better will count as satisfying degree requirements. A grade of C or better must be earned in some courses that are prerequisites for other courses in the discipline before continuing in the course sequence. Specific departmental requirements are listed in the course descriptions. Students are strongly encouraged to meet with the College of Science advisor to formulate a Program of Study as early as possible in their academic career.

Science Major with Minor in Business Administration

Due to the increased need by the corporate world for employees who are not only scientists or mathematicians, but who have the background and training to move into managerial positions, students majoring in the College of Science may choose a minor in business administration. Specific examples are given for some of the majors in the departmental sections that follow.

SC 100 - Introduction to Science Research

SCI 101-109 - Exploring Space Science and Engineering

Atmospheric Science

National Space Science and Technology Center, Room 4044
Telephone: (256) 961-7877
Email: atmos@uah.edu
Web Site: http://www.nsstc.uah.edu/atmos

Faculty

Professors: S. Christopher (Chair), J. Christy, K. Knupp, M. Newchurch, D. Perkey, T. Sever, R. Welch; Research Professor W. Vaughan; Associate Professors: Q. Han, J. Mecikalski.

Mission Statement

The Atmospheric Science Department (ATS) at UAHuntsville is devoted to providing high-quality education to graduate and undergraduate students and to contributing international-caliber research principally in the areas of remote sensing, atmospheric chemistry and air pollution, radiative transfer, microwave radiometry, severe storms, numerical modeling, and climate-change modeling and measurements.

Policies
The Atmospheric Science Department does not offer an undergraduate major. However, the atmospheric science minor, in conjunction with a physics, mathematics, computer science, or chemistry major, offers an excellent preparatory undergraduate program leading to the M.S. or Ph.D. professional degree in atmospheric science.

The minor in atmospheric science particularly serves as a complement to the physics major. Many university graduate programs in atmospheric science, including the UAHuntsville program, heavily recruit undergraduate physics majors into their programs. These students have the requisite background courses in mathematics and physics to excel in graduate atmospheric science courses of study.

Students selecting one of the several options available under the atmospheric science minor program can qualify for the “meteorologist” category when applying for GS rated jobs in various government agencies. Thus, the program offers the opportunity for its graduates to meet these well-defined criteria when seeking employment.

**Atmospheric Science Track in Physics**

The Physics Department offers an atmospheric science track that requires ATS 401, 441, 451 and 461. See the Physics Department section for a full description.

**ATS 401 - Survey of Atmospheric Science**

**ATS 411 - Introduction to Geographical Information Systems**

**ATS 413 - Geographical Information Systems and Remote Sensing**

**ATS 414 - Scale and Landscape in GIS**

**ATS 415 - Advanced Topics in GIS**

**ATS 420 - Introduction to Atmospheric Chemistry and Air Pollution**

**ATS 441 - Atmospheric Thermodynamics and Cloud Physics**

**ATS 451 - Atmospheric Fluid Dynamics I**
ATS 452 - Synoptic Meteorology

ATS 454 - Forecasting Mesoscale Processes

ATS 461 - Atmospheric Radiation I

ESS 102 - Physical Geology

ESS 111 - Climate and Global Change

ESS 112 - Severe and Hazardous Weather

ESS 210 - Collapse of Civilizations

ESS 303 - Classification and Physical Causes of Climates

ESS 305 - Hydrology

ESS 307 - Environmental Archeology

ESS 312 - Principles of Ecology

ESS 321 - Pollution Problems
ESS 331 - Global Climate Change and Infectious Disease

ESS 370 - Introduction to Remote Sensing

ESS 401 - Survey of Atmospheric Science

ESS 407 - Environmental Challenges of the 21st Century

ESS 409 - Applications of Computers in Meteorology

ESS 410 - Operational Weather Forecasting

ESS 411 - Introduction to Geographical Information Systems

ESS 413 - Geographical Information Systems and Remote Sensing

ESS 414 - Cross-Disciplinary Introduction to GIS

ESS 420 - Introduction to Atmospheric Chemistry and Air Pollution

ESS 441 - Atmospheric Thermodynamics and Cloud Physics

ESS 451 - Atmospheric Fluid Dynamics I
ESS 452 - Synoptic Meteorology

ESS 454 - Forecasting Mesoscale Processes

ESS 461 - Atmospheric Radiation I

ESS 490 - Selected Topics in Environmental Science

ESS 495 - Directed Study

ESS 499 - Undergraduate Research Capstone

Biological Sciences

369A Shelby Center
Telephone: (256) 824-6260
Email: biology@uah.edu
Web Site: http://www.uah.edu/biology/

Professors Lawton, Moriarity (Interim Chair), Shriver; Professors Emeriti Campbell, Eley, Garstka, Modlin; Associate Professors Boyd, Leahy, Magnuson, Ng; Assistant Professors Cruz Vera; Research Assistant Professor Cseke; Visiting Assistant Professors Kitazono, MacGregor, Balasubramanian; Lecturer Stallsmith.

Mission

The UAHuntsville Department of Biological Sciences aspires to provide one of the best programs in the Southeastern U.S. contributing to meeting these challenges through undergraduate and graduate education and research. Best is understood in terms of both quality and efficiency. At the undergraduate level, we want the majority of UAHuntsville undergraduates to have at least one course in the biological sciences to provide some perspective on scientific issues confronting our society. For biological science majors, we want to ensure forward-looking, comprehensive curricula that meet the highest national standards. This must include instruction and laboratory experience in each of the principal areas within biological sciences, and supporting course work in mathematics, chemistry, communications and bioethics. In addition, we want to provide our undergraduate majors with support and research experience necessary to build careers in business and in graduate and professional schools. At the graduate level, the objective of the Department of Biological Sciences is to educate and train students in the critical, problem solving and independent
thinking skills required in scientific research. Through our M.S programs and the interdisciplinary Biotechnology Ph.D degree and at the Postdoctoral level we aspire to provide thorough training and mentoring to cultivate future scientists, who are trained to serve national needs in education and industry.

**Program description**

A student may elect a program leading to either a Bachelor of Arts or a Bachelor of Science degree. In most areas of biological interest, a Bachelor of Science degree is deemed more desirable; however, a Bachelor of Arts degree may be preferred in Programs of Study relating biological sciences to the humanities, social sciences, and economics. In either case, the biological sciences department is committed to high quality undergraduate instruction, with the ultimate goal to produce accomplished graduates who can pursue advanced degrees in the health or life sciences or who can develop meaningful careers in the biological sciences.

**Biological Sciences Major**

The biological sciences program is flexible and broad enough to permit the student to develop courses of study to meet a wide range of interests or career goals within the life sciences. Curricula are available for students who elect to pursue biochemistry, environmental science, exercise physiology, graduate preparatory, microbiology, molecular biology, premedical technology, pre-health professional, or secondary education programs. Examples of programs of study that fulfill the University’s degree requirements and achieve diverse goals in the biological sciences are shown below. Any curriculum may be modified to fit individual aims with the approval of the biology faculty. It is strongly advised that the student electing to major in the biological sciences consult with a biology faculty member early in his/her academic career to formalize a plan of study (POS) to meet academic and career objectives in a timely manner. Normally, a POS should be developed before the junior year of study. It is strongly recommended that one be established before the completion of 85 semester hours of coursework.

A major in biological sciences requires a minimum of 36 semester hours of coursework in BYS and includes the following core courses: BYS 119, 120, 219, 300, and 490. All students majoring in biological sciences will be required to take the ETS Major Field Test in Biology as a component of the BYS 490 course, and the results of the test will be factored into the grade for this course. Additionally, it is expected that the student will take an appropriate structural biology and physiology course within the area of emphasis. A course in biochemistry within the major or a chemistry minor is also strongly recommended.

One course in calculus is required for a B.S. in biological sciences. If the student intends to pursue a course of study requiring more advanced mathematics background, MA171 is recommended to meet this requirement. Otherwise, MA120 may be used to meet this requirement. Biological sciences majors are also encouraged to take a course in statistics.

All BYS majors must have a minor or cognate studies included in their program of study.

**Biological Sciences Major with tracks**

The following are examples of various curricular constructs that can be established to meet different academic and/or career interests and objectives. Each example is to be used merely as a guideline in creating a Program of Study (POS) to meet a particular goal. Strict adherence to the suggested curriculum is not obligatory to meet degree requirements within the major as long as the individual POS has been previously approved by the faculty advisor, departmental chair, and the dean of the College.

- B.S. or B.A. degree with a psychology minor (psychobiology rogram)
- B.S. or B.A. degree for secondary education
- B.S. degree with emphasis in biochemistry; chemistry minor
B.S. degree, premedical, predental, preveterinary; chemistry minor
B.S. degree, microbiology emphasis with chemistry minor, preparatory for graduate study in microbiology
B.S. degree, environmental biology emphasis, preparatory for graduate study in ecology or environmental science; chemistry minor
B.S. degree, composite major in biological-environmental sciences
B.S. degree with emphasis in exercise physiology
Biological Sciences Minor

Courses in Marine Sciences

Select courses in marine sciences, available through the Marine Environmental Sciences Consortium, may be taken for credit at UAHuntsville toward a biological sciences major or minor, a minor in marine sciences, or a Master of Science degree in biological sciences. Biological sciences majors electing a marine sciences minor generally would not take MS courses in the minor that were principally biologically oriented. Courses for which credit is not given for a biological sciences major or minor can be taken as electives. All programs of study that involve marine sciences courses must be approved by the MESCUAHuntsville liaison officer.

BYS 100 - Introduction to Health Professions

BYS 119 - Principles of Biology

BYS 120 - Organismal Biology

BYS 200 - Dinosaur Biology

BYS 201 - An introduction to Molecular Understanding of Biological Systems

BYS 214 - Infection and Immunity

BYS 219 - Genetics and Evolution

BYS 238 - Local Flora
BYS 300 - Cell and Developmental Biology

BYS 301 - Elementary Biochemistry

BYS 312 - Principles of Ecology

BYS 313 - Anatomy and Physiology I

BYS 314 - Anatomy and Physiology II

BYS 315 - Ichthyology

BYS 317 - Vertebrate Zoology

BYS 318 - Vertebrate Reproduction

BYS 321 - General Microbiology I

BYS 322 - General Microbiology II

BYS 331 - Global Climate Change and Infectious Diseases

BYS 347 - Biophysical Chemistry I
BYS 430 - Immunology

BYS 436 - Biological Psychology

BYS 437 - Psychobiology of Stress & Illness

BYS 464 - Evolution

BYS 490 - Senior Seminar

BYS 491 - Special Topics in Biological Sciences

BYS 492 - Undergraduate Research

BYS 499H - Undergraduate Honors Research and Thesis

MS 202 - Marine Biology

MS 204 - Commercial Marine Fisheries of Alabama

MS 301 - Marine Technical Methods I

MS 302 - Marine Technical Methods II
MS 303 - Coastal Climatology

MS 304 - Coastal Zone Management

Chemistry

203-C Materials Science Building
Telephone: (256) 824-6153
Email: chem@uah.edu
Web Site: http://chemistry.uah.edu/

Professors W. Setzer (Chair), Baird, Scholz, Gregory, Meehan, Radonovich, Shriver; Professor Emeritus Riley;
Associate Professors George, Vogler, Waddell, Weimer; Associate Research Professors Chen, Edmondson, Kaukler;
Assistant Professors McFeeters; Assistant Research Professor Twigg. Instructor M. Setzer.

Mission

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.

Academic Programs

The academic program in chemistry at the University of Alabama in Huntsville has received the approval of the American Chemical Society in recognition of its strong faculty and excellent facilities for high quality undergraduate instruction. The Chemistry Department offers courses leading to the B.S. degree with a major in chemistry and supports undergraduate programs in other disciplines.

Ten chemistry major curricula are offered that provide preparation for: (1) graduate school in biochemistry or molecular biology, medical school, dental school, or veterinary school; (2) graduate study in chemistry and/or employment as an industrial chemist; (3) preparation for graduate study in forensic chemistry or employment as a forensic scientist; (4) the Alabama Class B High School Teacher’s Certificate for a career in chemical education; (5) graduate work or employment in materials chemistry; (6) graduate study combining chemistry and physics; (7) general education in chemistry suitable for pre-professional students or employment as a biochemist or clinical chemist; (8) pharmacy or pharmacology programs; (9) chemical business; and (10) basic chemistry.

CH 101 - Introduction to Chemistry
CH 105 - Introductory Chemistry Laboratory

CH 121 - General Chemistry I

CH 122 - General Chemistry for Engineers

CH 123 - General Chemistry II

CH 125 - General Chemistry Laboratory I

CH 126 - General Chemistry Laboratory II

CH 191 - Fundamentals of Chemical Research

CH 192 - Fundamentals of Chemical Research

CH 193 - Fundamentals of Chemical Research

CH 201 - Elementary Organic Chemistry

CH 205 - Elementary Organic Chemistry Laboratory

CH 223 - Quantitative Analysis
CH 224 - Quantitative Analysis Laboratory

CH 301 - Elementary Biochemistry

CH 315 - Chemistry Teaching Methods

CH 331 - Organic Chemistry I

CH 332 - Organic Chemistry II

CH 335 - Organic Chemistry Laboratory I

CH 336 - Organic Chemistry Laboratory II

CH 337 - Organic Chemistry Laboratory III

CH 341 - Physical Chemistry I

CH 342 - Physical Chemistry II

CH 343 - Introduction to Quantum Chemistry

CH 345 - Experimental Physical Chemistry I
CH 346 - Experimental Physical Chemistry II

CH 347 - Biophysical Chemistry I

CH 348 - Biophysical Chemistry II

CH 361 - General Biochemistry I

CH 362 - General Biochemistry Laboratory I

CH 363 - General Biochemistry II

CH 364 - General Biochemistry Laboratory II

CH 401 - Inorganic Chemistry

CH 402 - Inorganic Chemistry Laboratory

CH 421 - Instrumental analysis

CH 440 - Polymer Synthesis and Characterization

CH 480 - Selected Topics in Chemistry
Computer Science

300 Technology Hall
Telephone: (256) 824-6088
Email: info@cs.uah.edu
Web Site: http://www.cs.uah.edu/

Professors Etzkorn, Graves, Newman, Ranganath (Chair), Slater; Research Professor Petty; Professors Emeriti Davis, Johannes, Shiva; Associate Professors Aygun, Cox, Delugach, Li, Rochowiak; Assistant Professors Weisskopf, Zhang; Zhu.

Mission

The overriding mission of the Computer Science program is to prepare students to become contributors to the computer science profession, whether they find themselves in industrial, government, research, or university environments. The educational objectives of the Computer Science Department, which are based on the department's commitment to excellence in teaching, research, and service, and overall development of students are consistent with the mission statement of the University.

The Computer Science Department is located in Olin B. King Technology Hall and has excellent classroom, laboratory, and student facilities. Ready access is provided to several modern, networked PC laboratories within the department. The UAHuntsville campus is fully networked with a fiber optic backbone and is a member of the NSF’s Internet2 network, giving high-speed connectivity to the Internet. Additional PC laboratories are also distributed across the campus. The department has microcomputer and network laboratories for instruction in logic design, computer architecture, and networking. Laboratory fees are associated with most computer science classes since extensive laboratory work is required. In order to accommodate student needs, lab scheduling is flexible.

Based on the educational goals of the College of Science and the University, the Computer Science Department has established the following specific student and faculty objectives:

Student Objectives and Outcomes: Computer Science graduates

- Will be trained in theoretical concepts and mathematical fundamentals essential for establishing a strong foundation for a life long career in Computer Science.
- Will have good analytical, communication, and problem solving skills needed for professional employment as well as graduate studies.
- Will have a good learning experience during their degree program.
- Will have a good understanding of the fundamentals of the organization, operation, and use of computers.
- Will be proficient in modern programming languages such as C, C++ and Java.
• Will be proficient in Software Engineering methodologies and able to work on group projects.
• Will have strong laboratory experience that provides them practical and effective computing skills.

Program Description

The Computer Science Department offers the B.S., M.S., and Ph.D. in Computer Science as well as the M.S.S.E. in Software Engineering. The department has excellent faculty who are dedicated to teaching, research and student advisement. The program meets national standards for excellence and since 1989 has been fully accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012

Policies

A Mathematics minor is required of all computer science majors.

A transfer student must complete a minimum of 18 hours of CS courses at UAHuntsville in order to obtain a degree in Computer Science.

A minimum GPA of 2.0 must be obtained both in the computer science major and the mathematics minor courses taken at UAHuntsville.

Students may use either CS 391 or 392 as a Computer Science elective, but not both. It is possible to use one as a CS elective and one as the technical elective.

A student must meet all requirements of the College of Science and the University as well as the requirements stated in this section.

CS 100 - Introduction to Computers and Programming

CS 102 - Introduction to C Programming

CS 103 - Introduction to Programming using Java

CS 105 - Computer Science Seminar ? Ethics and Professionalism

CS 121 - Computer Science I

CS 143 - Introduction to Technologies for Multimedia and Gaming
CS 214 - Introduction to Discrete Structures

CS 221 - Computer Science II: Data Structures

CS 307 - Object-Oriented Programming in C++

CS 308 - Computer Organization and Assembly Language Programming

CS 309 - Switching Theory

CS 317 - Introduction to Design and Analysis of Algorithms

CS 321 - Introduction to Object-Oriented Programming in Java

CS 325 - Professionalism and Computing Ethics

CS 390 - UNIX Programming

CS 391 - Introduction to Network Administration Principles for Windows

CS 392 - Introduction to Network Administration Principles for UNIX

CS 396 - Special Topics
CS 397 - Special Topics

CS 398 - Special Topics

CS 403 - Introduction to Formal Languages and Automata Theory

CS 413 - Introduction to Digital Computer Design

CS 424 - Programming Languages

CS 445 - Introduction to Computer Graphics

CS 470 - Introduction to Computer Networks

CS 487 - Database Systems

CS 490 - Introduction to Operating Systems

CS 495 - Independent Study

CS 496 - Special Topics

CS 497 - Special Topics
Earth System Sciences

4042 NSSTC Building
Telephone: (256) 961-7789
Email: welch@nsstc.uah.edu

Coordinator: R. Welch, Professor and Chair, Department of Atmospheric Science

Faculty: Professors Welch (Coordinator), Christopher, Christy, Eley (Emeritus), Knupp, Lawton, Newchurch, Perkey, Podila, Sever; Research Professor Vaughan; Associate Professors: Han, Leahy; Assistant Professors: Mecikalski; Lecturers: Stallsmith.

Mission: The primary objectives of the ESS program are: 1) to meet important national, regional and statewide needs for highly technically-educated professionals who understand the Earth as a system, and 2) to produce graduates who will be able to perform a variety of functions in research centers and industry centered in our impact on the Earth system. Specifically, that means that students will be trained with 1) the ability to deal quantitatively with real-world problems, 2) the ability to integrate knowledge from multiple disciplines to scientifically address Earth system issues quantitatively, and 3) the ability to work in interdisciplinary teams.

Minor or Cognate Studies

In addition to the course requirements for the major, the ESS degree requires students to choose a minimum of 18 hours in a minor or a cognate studies area. Suggested minors include Physics, Chemistry, Biology, Computer Science, Mathematics, Education or Political Science. Cognate courses must be an educationally compatible combination of courses from more than one department. The ATS Department must approve courses in a cognate studies area. At least six hours must be upper division (300 or above) credit.


To meet these requirements, students should ensure that the 12 credits of course work in atmospheric thermodynamics and dynamics and weather analysis and forecasting.

1. At least 24 semester hours of credit in meteorology/atmospheric science, including a minimum of
   a. 6 semester hours in atmospheric dynamics (ESS 451) and thermodynamics (ESS 441),
   b. 6 semester hours in analysis and prediction of weather systems (synoptic/mesoscale) (ESS 452, 454),
   c. 3 semester hours of physical meteorology (ESS 111, 112, 401), and
   d. 2 semester hours of remote sensing of the atmosphere (ESS 370) and/or instrumentation;
2. 6 semester hours of physics, with at least one course that includes laboratory session (PH 111/114; 112/115; 113/116);
3. 3 semester hours of ordinary differential equations (MA 238);
4. at least 9 semester hours of course work for a physical science major in any combination of three or more of the following: physical hydrology (ESS 305), chemistry (ESS 420), physical oceanography, physical climatology (ESS 303), radiative transfer (ESS 461), aeronomy, advanced thermodynamics, advanced electricity and magnetism, statistics (ST 281), light and optics, and computer science (CS 102).

Or

A combination of education and experience-course work shown above, plus appropriate experience or additional education.

1. For the purposes of this document, the terms "atmospheric science" and "meteorology" are taken to be equivalent.
2. There is a prerequisite or corequisite of calculus for course work in atmospheric dynamics and thermodynamics, physics, and differential equations. Calculus courses must be appropriate for a physical science major. The preferred sequence of courses is for students to enroll in atmospheric thermodynamics and dynamics courses after completing at least two semesters of calculus.
3. This requirement is assigned a range of credit hours (i.e., 0-3 credits) in acknowledgement that many cooperative and internship experiences, such as the NWS Student Career or Temporary Employment Programs that offer participants work experience directly related to their academic field of study, are salaried and consequently at most colleges and universities students cannot earn credit hours for these synthesizing and capstone work experiences.
4. There is a prerequisite or corequisite of calculus for course work in atmospheric dynamics and thermodynamics, physics, and differential equations. Calculus courses must be appropriate for a physical science major.

**ESS 100 - Introduction to Space Science**

**Mathematical Sciences**

258A Shelby Center  
Telephone: (256) 824-6470  
Email: math@uah.edu  
Web Site: http://www.math.uah.edu/

Professors: Friedman, Gibson, Huang, Li (Chair), Morales, Siegrist, Slater; Associate Professors: Ai, Howell, Kunin, Ravindran, Zhang; Associate Research Professor: Dow; Assistant Professors Choup, Park, Wu; Lecturers: Bowman, Lenahan, Marples, Presson.

**Mission**

The Department of Mathematical Sciences is dedicated to education, research, and service in mathematics.

Our educational mission is to provide excellent instruction and resources for the mathematics education of our students through our courses and degree programs. As the language of science, mathematics is of fundamental importance to the general education of UAHuntsville students, particularly students planning careers in science and engineering. 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 mission in research and scholarship is to discover and disseminate new mathematics and to apply mathematics to problems in engineering and in the physical, biological, and social sciences.
Our service mission is to promote and communicate the importance of mathematics in society and to help maintain standards of excellence in mathematics through refereeing and reviewing. Our service mission is to work with other departments and units in UAHuntsville to achieve the goals of the College of Science and the university as a whole.

We recognize that the components of our mission are not separate but are intimately interrelated. Excellence in teaching, research, and service can only be achieved together.

The mathematical sciences faculty offers courses in mathematics and statistics for a Bachelor of Arts or Bachelor of Science degree in mathematics, a Bachelor of Arts or Bachelor of Science degree in mathematics with an Alabama Class B Teacher’s Certificate, and a minor or second major in mathematics for students majoring in other areas of study. Courses also satisfy individual needs to supplement other areas of study and to satisfy general education requirements (GER).

Mathematics (MA)

1. No student may receive more than 6 hours credit for MA courses numbered below 120.
2. AGSC refers to the Alabama General Studies Curriculum (see http://stars.troy.edu/ for more information).
3. Students with deficiencies of high school algebra or high school geometry credit must remove these deficiencies before enrollment in MA courses numbered 100 or above.
4. No student may enroll in his or her first MA course at UAHuntsville before placement determination has been made.

MA 004 - Basic Algebra

MA 033 - High School Geometry

MA 107 - Algebra with Applications

MA 110 - Finite Mathematics

MA 112 - Precalculus Algebra

MA 113 - Precalculus Trigonometry

MA 115 - Precalculus Algebra and Trigonometry
MA 120 - Calculus with Applications

MA 171 - Calculus A

MA 172 - Calculus B

MA 201 - Calculus C

MA 230 - Mathematics for Elementary School Teachers

MA 231 - Mathematics for Elementary School Teachers II

MA 238 - Applied Differential Equations

MA 244 - Introduction to Linear Algebra

MA 281/ST281 - Elements of Statistical Analysis

MA 299 - Mathematics Project

MA 330 - Foundations of Mathematics

MA 385 - Introduction to Probability and Statistics
MA 399 - Mathematics Project

MA 415 - Introduction to Numerical Methods

MA 420 - Intermediate Differential Equations

MA 433 - Introduction to Geometry

MA 442 - Algebraic Structures with Applications

MA 450 - Combinatorial Enumeration

MA 452 - Introduction to Real Analysis

MA 453 - Introduction to Complex Analysis

MA 456 - Methods of Partial Differential Equations

MA 458 - Applied Linear Algebra

MA 460 - Introduction to Fourier Analysis

MA 465 - Introduction to Mathematical Modeling
MA 487 - Introduction to Mathematical Statistics

MA 490 - Selected Topics in Undergraduate Mathematics

MA 499 - Mathematics Project

ST 281 - Elements of Statistical Analysis

ST 487 - Introduction to Mathematical Statistics

Physics

201C Optics Building
Telephone: (256) 824-2483
Email: physics@uah.edu
Web Site: http://physics.uah.edu

Professors Zank (Chair), Fix, J. Franz, Gregory, Lieu, J. Miller; Associate Professors M. Bonamente, I. Roux, R. Miller; Assistant Professors Burko, Duan, Florinski, Heerikhuisen, Li, Sadeghi, Shaikh; Research Professor Zhang; Associate Research Professor Nishikawa, Preece; Lecturers Elsamadicy, Strong

Mission

Train : Discover : Support

The mission of the Department of Physics 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 undergraduate program prepares physics majors for employment in industrial research or for further graduate studies in physics or related fields, including astrophysics, optics, biophysics, engineering, or medicine. We further play a vital role in the education of other science and engineering students, and promote the understanding and appreciation of physics through our general study courses. Externally funded research is the foundation of our graduate program, which prepares our students for scientific challenges in private industry, government labs, or academia. We also strongly encourage our undergraduate physics majors to participate in departmental research endeavors, even beyond the research required by our “capstone” course. Finally, we promote the advancement of science through publications, public outreach, and other activities within our profession.
AST 100 - Survey of Astronomy

AST 106 - Exploring the Cosmos I

AST 107 - Exploring the Cosmos II

AST 210 - Introduction to Astrobiology

AST 371 - Introduction to Astrophysics

AST 471 - Stellar Astrophysics

OPT 341 - Geometrical Optics

OPT 342 - Physical Optics

OPT 411 - Geometrical Optics Laboratory

OPT 412 - Physical Optics Laboratory

OPT 441 - Optical Systems Design

OPT 444 - Optoelectronics
OPT 445 - Introduction to Lasers

OPT 446 - Radiometry, Detectors, and Sources

OPT 447 - Polarized Light and Polarimetry

PH 100 - Conceptual Physics

PH 101 - General Physics I

PH 102 - General Physics II

PH 110 - Frontiers in Science

PH 111 - General Physics with Calculus I

PH 112 - General Physics with Calculus II

PH 113 - General Physics with Calculus III

PH 114 - General Physics Laboratory I

PH 115 - General Physics Laboratory II
PH 116 - General Physics Laboratory III

PH 251 - Special Relativity

PH 301 - Intermediate Mechanics

PH 305 - Mathematical Methods in Physics

PH 306 - Computational Physics

PH 310 - Intermediate Laboratory I

PH 311 - Intermediate Laboratory II

PH 337 - Electronics

PH 351 - Introduction to Modern Physics

PH 416 - Senior Laboratory

PH 420 - Senior Thesis

PH 421 - Thermal and Statistical Physics
PH 431 - Intermediate Electricity and Magnetism I

PH 432 - Intermediate Electricity and Magnetism II

PH 451 - Introductory Quantum Mechanics I

PH 452 - Introductory Quantum Mechanics II

PH 453 - Introduction to Particle Physics

PH 474 - Introduction to General Relativity

PH 480 - Selected Topics

PH 481 - Selected Topics

PH 482 - Selected Topics

PH 483 - Selected Topics

PH 484 - Selected Topics

PH 485 - Selected Topics
PH 486 - Selected Topics

PH 487 - Selected Topics

PH 488 - Selected Topics

PH 489 - Selected Topics

PH 499 - Physics Practicum

Continuing Education

230 Madison Hall  
Telephone: (256) 824-6013  
Email: Karen.Clanton@uah.edu  
Web Site: www.ConEd.uah.edu  
Director: Karen M. Clanton, B.S.B.A., M.S.M., Ed.D.

Mission

The Division of Continuing Education (CE) is committed to meeting the diverse needs of organizations, agencies, and individuals through selected non-credit and credit programs that are timely, relevant, and in accordance with the strategic directions of the University. The Division 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. This objective is carried out through the following programming departments: Professional Development, Health and Physical Education, Educator Programs, and Osher Lifelong Learning Institute.

Accreditation

The University of Alabama in Huntsville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS). The Division of Continuing Education offers non-credit and credit programs under the auspices of that accrediting body.
Facilities/Services

The Division of Continuing Education utilizes the auditoriums, training facilities, classrooms, and other accommodations located on the UAHuntsville campus. In addition, the Division has state-of-the-art computer labs for engineering and information technology training, and fully equipped distance learning production classrooms that allow for instructional taping of high quality distance learning programs. Health and Physical education activities are located in the University Fitness Center, an on-campus facility that contains an indoor pool, gymnasium, weight room, indoor track, and aerobic area. Courses are also held in Spragins Hall, which maintains racquetball and tennis courts. Other continuing education activities are held at various locations throughout the community.

Listener’s License

The Division of Continuing Education coordinates the Listener’s License program, which allows participants to attend regular credit classes, without regard to university admittance status. Listeners are not required to take tests or satisfy attendance requirements and no academic or Continuing Education Units (CEUs) credit is awarded. Participants pay an established course fee, any associated laboratory fees, purchase a campus parking decal, and receive library privileges for the term. Only select courses are available through the Listener’s License program, and courses taken through the Listener’s License program may not be petitioned for credit by examination. Students under disciplinary or academic suspension from any college or university are ineligible to register as Listeners. To determine which courses are available for Listener’s License, phone (256) 824-6372.

CE Registration Services

317 Madison Hall
Telephone: (256) 824-6010 or 800-448-4031
FAX: (256) 824-6760
Email: Rita.Campbell@uah.edu
Rita Roysden Campbell, Director of CE Administration

The Division Continuing Education Registration Office provides registration services for all non-credit and select credit courses offered through the Division. Contact the office to obtain a current course catalog or visit www.ConEd.uah.edu. There is no application process for non-credit courses, and enrollments are taken throughout the year.

Non-Credit Courses

Participants may register online, by phone, mail, fax, or in person for non-credit courses. Continuing Education Units (CEUs) are provided for non-credit activities, which comply with SACS Continuing Education Unit: Guidelines, Fifth Edition. One CEU is awarded for each ten-contact hours of participation in an organized continuing education activity. UAHuntsville awards CEUs and a certificate of completion to each person who successfully completes a CEU designated non-credit course. Transcripts are available upon written request from the Continuing Education Registration Office, for a $4 fee per transcript.

Health and Physical Education Credit Registration

Students register for Health and Physical Education (HPE) credit courses through Charger Central. Dates, times, procedures and eligibility requirements for registration are available in Charger Central, the Academic Advising
offices, and on the UAHuntsville website. Please consult your department of major for specific guidelines on elective courses. NOTE: Part-time students (registered for less than 12 credit hours) taking HPE classes that meet in the University Fitness Center (UFC) will be required to purchase membership to the UFC. Membership rates are based on the total number of credit hours for which you are enrolled. Fees apply for the duration of the course.

**Professional Development**

339 Madison Hall  
Telephone: (256) 824-6372  
Email: Joann.Jones@uah.edu  
Jo Ann N. Jones, Director; Lisa Strickland, Senior Assoc. Director

**Mission**

The Department of Professional Development develops and presents professional training and educational activities in areas including management, engineering, and information technology. Programs are designed to allow a student the choice of attending individual courses of interest, or completing a more structured certificate program leading to a Certificate of Professional Achievement. Courses are offered in both daytime and evening formats, weeklong formats, and through distance learning to help accommodate the diverse scheduling needs of students. Students are offered an atmosphere conducive for meeting their professional training needs, with state-of-the-art computer labs and classrooms, and instructors who are known and respected industry practitioners and researchers in their respective fields. Programs and examination review seminars include:

**Management**

Business Communications  
Cost Estimating  
Federal Contract Management  
Federal Proposal Management  
GMAT Review  
Interior Design  
ISO/Quality  
Leadership

Logistics and Supply Chain Management  
PMP Examination Review  
PgMP Examination Review  
Presentation Skills  
Project Management  
Supervisory Development  
Technical Writing

**Engineering**

Engineering Management  
Modeling and Simulation
Distance Learning

Professional Development offers many of its engineering and management certificate programs and seminars in a convenient video-based online format. Distance learning allows participants more flexibility in their training options and provides organizations a cost-effective alternative. In addition to the courses listed above, a partnership with Gatlin Educational Services provides online career training in Healthcare; Business; Construction/Automotive Technology; Networking and CompTIA, Microsoft Certification, Video Game Design and Development; and Internet, Design, and many other programs.

Customized Training

UAHuntsville’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, and can be offered on site, on-campus, or via distance learning. Through targeted learning experiences, the individual or team can bring new tools and competencies back into the organization, providing an immediate on-the-job impact.
Educator Programs

333 Madison Hall
Telephone: (256) 824-6835
Email: Patty.Stevens@uah.edu
Patty Stevens, Associate Director

Mission

The Department of Educator Programs designs, develops, and conducts quality credit and non-credit professional development programs to meet the in-service needs of K-12 administrators, teachers, and staff. Partnerships are developed with local schools, government agencies, and the private sector to design unique programs to meet institutional needs and achieve educational objectives. Specific programs may be conducted in local, national, and international settings. Current programs include a hands-on graduate level course, Exploring the Future: Math and Science for a New Generation, offered in conjunction with the U.S. Space and Rocket Center.

Osher Lifelong Learning Institute

332 Madison Hall
Telephone: (256) 824-6959
Email: Maxine.Doherty@uah.edu
Lisa Strickland, Senior Assoc. Director; Maxine Doherty, Program Manager

Mission

The Osher Lifelong Learning Institute (OLLI) and the Division of Continuing Education partner to provide lifelong learning courses and enrichment activities designed to fulfill the educational needs of the mature, usually retired, residents of the Tennessee Valley. OLLI is a member-governed, member-led, non-profit, volunteer-based organization, that advances the educational, cultural, and social interests of its members (predominantly 50 years or older) by sponsoring non-credit courses, forums, seminars, and other events to promote understanding and appreciation of subjects selected by its members. The Division of Continuing Education supports OLLI’s efforts by providing support services and a safe, comfortable, and intellectually stimulating on-campus environment that supports senior lifelong learning and enhances community outreach.

Curriculum includes a wide range of courses: Arts and Letters, Computers, Crafts, Creative Writing, Finance and Economics, Estate Planning, Exercise, Foreign Languages, Foreign Policies, Government, Great Books, History, Investments, Elder Law, Leisure, Literature, Medical Issues, Music, Nature Studies, Poetry, Politics, Psychology, Science, Space Exploration, and more. Courses are offered during fall, winter, and spring, with most meeting one day a week for six to eight weeks for approximately 1.5 hours each class. OLLI courses are taught by qualified volunteer instructors. Courses are not graded and no tests are administered.

Health and Physical Education

108 Spragins Hall
Telephone: (256) 824-6007
Email: David.Kyle@uah.edu
David L. Kyle, M.A., Associate Director
Mission

The Department of Health and Physical Education supports the mission of the university by providing quality teaching and service through a variety of health, wellness, fitness, and recreational courses and by developing partnerships with organizations that are responsive to the needs of our students and the greater community. The unique and diverse courses are based upon timely, relevant, and basic and applied research that will promote establishing healthy activities for a lifetime. Emphasis is placed upon enhancing and maximizing health, physical performance, lifetime fitness, and disease prevention for students, faculty, and staff, and increasing public awareness of the social implications of current health issues.

Facilities

The Department of Health and Physical Education is housed primarily in two buildings: Spragins Hall and the University Fitness Center. Spragins Hall features a 2,250-seat gymnasium, four racquetball courts, weight room, exercise floor, and athletic training facility. Located adjacent to Spragins Hall is a six court tennis facility. HPE also utilizes a new Exercise Physiology laboratory within Spragins Hall. This lab allows students to perform the skills required of exercise physiologists along with conducting exercise-based research projects.

The University Fitness Center is a state-of-the-art exercise facility, equipped with several group exercise rooms and a 6,000 sq. ft. weight room containing over 70 pieces of exercise machines and free weight equipment. The Cardiovascular Center offers a choice of over 40 pieces of equipment including treadmills, elliptical machines, steppers, and bikes. The swimming pool is 25 yards in length and has six lanes for lap swimming. Three collegiate-size basketball courts and a suspended 4-lane indoor track are also located under the Fitness Center’s roof. Other facilities include volleyball, sand volleyball, table tennis, and badminton.

Exercise Physiology Cognate

The UAHuntsville Departments of Biological Sciences and Health and Physical Education have teamed to offer Exercise Physiology as a cognate area within the Bachelor of Science/Arts Biological Sciences major. The program is flexible and broad enough to permit students to develop courses of study to meet a wide range of interests or career goals within the life sciences.

HPE 100 - Aerobics I

HPE 101 - Aerobics II

HPE 102 - Step Aerobics I

HPE 103 - Step Aerobics II
HPE 104 - Kardio Kickbox

HPE 109 - Speed & Plyometric Training

HPE 110 - Walk, Jog, Run

HPE 111 - Butts & Guts Workout

HPE 112 - Fitball Conditioning

HPE 113 - Body Sculpting

HPE 117 - Weight Training I

HPE 117 - Weight Training I for Women Only

HPE 118 - Weight Training II

HPE 118 - Weight Training II for Women Only

HPE 119 - Weight Training III

HPE 119 - Weight Training III for Women Only
HPE 120 - Beginning Swimming

HPE 121 - Intermediate Swimming

HPE 122 - Advanced Swimming

HPE 129 - Kung Fu

HPE 130 - Beginning Karate

HPE 131 - Intermediate Karate

HPE 132 - Advanced Karate

HPE 133 - Aikido

HPE 134 - Tai Chi

HPE 135 - Intermediate Tai Chi

HPE 136 - Yoga

HPE 137 - Judo/Jujitsu
HPE 140 - Beginning Ballroom Dance

HPE 142 - Swing Dance

HPE 143 - Latin Dance

HPE 144 - Country/Western Dance

HPE 150 - Beginning Racquetball

HPE 151 - Intermediate Racquetball

HPE 152 - Advanced Racquetball

HPE 153 - Beginning Tennis

HPE 154 - Intermediate Tennis

HPE 155 - Advanced Tennis

HPE 156 - Golf I

HPE 157 - Golf II
HPE 167 - Rock Climbing

HPE 170 - Volleyball

HPE 170 - Volleyball

HPE 172 - Beginning Bowling

HPE 173 - Intermediate Bowling

HPE 174 - Billiards

HPE 199 - Special Topics in HPE

HPE 199 - Special Topics in HPE

HPE 200 - Contemporary Nutrition

HPE 205 - First Aid and CPR

HPE 210 - Beginning Athletic Training

HPE 215 - First Responder/Professional CPR
HPE 220 - Basic Scuba

HPE 223 - Lifeguard Training

HPE 224 - Water Safety Instructor

HPE 230 - Private Pilot Ground School

HPE 231 - Instrument Airplane (IFR) Rating Ground School

HPE 240 - Health and Wellness Concepts

HPE 250 - Essentials of Personal Training

HPE 255 - Group Fitness Instruction

HPE 300 - Nutrition for Fitness and Sport

HPE 311 - Advanced Athletic Training

HPE 312 - Athletic Training Practicum

HPE 351 - Exercise Testing and Prescription
HPE 450 - Exercise Physiology Internship

Schools/ Colleges/ Departments

University of Alabama in Huntsville

Graduate Studies

Business Administration

202 Business Administration Building
Telephone: (256) 824-6735
Email: BusinessDean@uah.edu

Dean:
Caron H. St. John, BS, MBA, Ph.D., Professor of Management

Associate Dean:
J. Daniel Sherman, BS, MA, Ph.D., Professor of Management

Mission

The UAHuntsville College of Business Administration prepares students to lead and manage integrated and innovative organizations, creates business knowledge through rigorous research, and shares knowledge with the academic community as well as with enterprises in the public and private sectors.

Accreditation and Membership

The Bachelor of Science in Business Administration (BSBA), the Master of Business Administration (MBA), the Master of Accountancy (M.Acc.), and the Master of Science in Information Systems (MS-IS) programs offered by the College of Business Administration are accredited by AACSB International - The Association to Advance Collegiate Schools of Business.

The AACSB International is a not-for-profit corporation comprised of member organizations and institutions devoted to the promotion and continuous improvement of higher education for business administration and management. Organized in 1916, AACSB International is the premier accrediting agency for bachelor’s, master’s and doctoral degree programs in business administration and accounting.
The College is a member of the Association for University Business and Economic Research (AUBER). Organized in 1947, AUBER is the professional association of business and economic research organizations in universities.

The College is a member of the Alabama Small Business Development Consortium (ASBDC). The ASBDC provides management counseling and training to small business owners throughout Alabama.

**Center for Management and Economic Research (CMER)**

130 Shelby Center  
Telephone: (256) 824-6990  
Email: cmer@uah.edu

The center stimulates expansion of North Alabama’s economy by helping local managers define and realize growth opportunities and solve specific problems. It serves individuals and organizations through management and technical assistance, dissemination of economic and socio-economic information, and conducting research studies. Special emphasis is placed on businesses in technological fields.

Assistance areas include computer information systems, accounting, marketing, business strategy, human resource management, labor relations, organizational behavior, entrepreneurship, and organizational development.

CMER offers customized training programs for business and organizations. Training areas include microcomputer applications, accounting information systems, marketing, finance, competitive positioning, communication, strategic management, organizational design, and international business. The center conducts research studies for organizations. Typical studies include economic impact studies, benefit cost analysis, market opportunity analysis, fiscal impact analysis, and technology assessment.

**Center for the Management of Science and Technology (CMOST)**

323 Business Administration Building  
Telephone: (256) 824-6407  
Email: cmost@uah.edu

The Center for the Management of Science and Technology’s broadest goal is to improve the state-of-the-art in the management of organizations that are substantially impacted by science and technology. Specifically, CMOST is devoted to the development of new practices appropriate for the management of high technology commercial and governmental organizations. CMOST conducts research to develop new management strategies, techniques and competencies to help firms manage the high risks and uncertainties that characterize Huntsville’s high technology industry. In addition, the Center’s staff does contract research on business, management and economic problems for governmental organizations and private industry.

**NorthEast Alabama Regional Small Business Development Center**

126 Business Administration Building  
Telephone: (256) 824-6422
The Northeast Alabama Regional Small Business Development Center (NEAR SBDC) provides assistance to small businesses and aspiring entrepreneurs. The mission of NEAR SBDC is to “Help small businesses survive and grow.” The center provides four types of assistance: business management counseling, startup counseling, training/workshops, and a resource library.

Small business owners or managers receive professional assistance and direction in operating a business profitably. This may include counseling in one or more of the following areas: financial capital, business planning, personnel, record keeping, licensing, taxes, intellectual property, government procurement, governmental regulations, marketing, commercialization, Small Business Innovation and Research programs, market research, inventory control, or how to conduct a feasibility study. Small business reference materials (books and videos) are maintained in the NEAR SBDC reference library. Small business owners and entrepreneurs may visit the center and use business planning guides, watch or check out one of more than two dozen videos on business management, or work interactively with Internet, electronic data interchange demos, and electronic commerce demos. For additional information, contact the NEAR SBDC at 126 Business Administration Building, University of Alabama in Huntsville, Huntsville, AL 35899.

Executive Education Program

The executive education program is designed to assist the members of the business, industry, and governmental communities in keeping abreast of changes in a complex environment. The College of Business Administration offers an interactive blend of management educational programming ranging from one-session seminars on specific problems to a substantial sequence of classes custom tailored for corporate and governmental audiences. For more information, contact the Executive Education Program Office. Mail: BAB 202, UAHuntsville, Huntsville AL 35899. Phone: (256) 824-6736. FAX: (256) 824-6328. Email: executiv@uah.edu.

Degrees Offered

Bachelor’s. The College of Business Administration offers the Bachelor of Science in Business Administration (BSBA) degree. The BSBA encompasses majors in accounting, finance, management, marketing, and information systems.

Students may obtain a second bachelor’s degree in the College of Business Administration if they:

1. Complete, in addition to credits earned while pursuing the first degree, in residence a minimum of 25 percent of the total degree requirements for the second degree;
2. Include a new major in the second degree;
3. Satisfy the College’s general and major degree requirements in effect at the time they embark on the program leading to the second degree.

Business Administration Minors

Students from colleges other than Business Administration may select one of the minors in business administration. Students in the College of Business Administration may choose economics as a minor but may not select any of the other minors in business administration. The minor consists of at least 18 semester hours but not more than 30 semester hours in subjects available in the College of Business Administration. Students electing a minor may use the courses completed in the general education requirements as part of the required hours in a minor. For minors in business administration, ECN 142 and 143 count in the general education requirement and not in the 30 semester hour maximum in the College. Students who choose one of the minors in business administration may be able to count ECN 142 and 143 to meet their social science Area IV degree requirements. A baccalaureate program with more than 30 semester
hours (or 25 percent of degree requirements) in traditional business subjects must meet the AACSB International accreditation standards for a business degree. Such a program will be reviewed by the Dean of the College of Business Administration, or the dean’s designee, to determine if it meets the AACSB International standards.

The approved business administration minors are shown below. The minor program must have the approval of an undergraduate advisor, Room 102, Business Administration Building, (256) 824-6024.

**Economics as a Second Area of Study**

Students majoring in elementary education may choose economics as their second area of study. The area of study requires 18 hours of economics and finance courses and the prior approval of the Chair of the Department of Economics and IS.

**Policies, Procedures and Assistance**

**Course Numbers**

Course numbers are coded by prefixes as follows:

- Accounting: ACC
- Business Legal Studies: BLS
- Economics: ECN
- Finance: FIN
- Management: MGT
- Information Systems: IS
- Management Science: MSC
- Marketing: MKT

**Admission as a Freshman**

Entering UAHuntsville freshmen interested in business administration must meet the general entrance requirements of the University. Students who intend to pursue the BSBA degree should read carefully the Admissions Information section of the catalog.

Students who have had inadequate high school preparation or who are placed in certain lower-level classes because of the results of placement tests may have to take one or more of the following courses:

- EH 003 Basic English no credit
MA 004  Basic Algebra  no credit
MA 033  High School Geometry  no credit

These courses carry no academic credit but will appear on transcripts of students who complete the courses.

Admission as a Transfer Student

Transfer students seeking admission to UAHuntsville should read carefully the “Admissions Information” section of the catalog. Students planning to transfer into the College of Business Administration from a two or four year institution to obtain the BSBA are advised to follow the transfer program outlined below:

<table>
<thead>
<tr>
<th>Area I</th>
<th>English Composition</th>
<th>6 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area II</td>
<td>Humanities and Fine Arts:</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>6 hrs*</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Area III</td>
<td>Natural Sciences and Mathematics</td>
<td></td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>8 hrs</td>
<td></td>
</tr>
<tr>
<td>Precalculus Algebra</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Area IV</td>
<td>History, Social and Behavioral Sciences</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Principles of Micro and Macro Econ.</td>
<td>6 hrs</td>
<td></td>
</tr>
<tr>
<td>Psychology, Sociology, Anthropology</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Area V</td>
<td>Business</td>
<td></td>
</tr>
<tr>
<td>Business Statistics</td>
<td>6 hrs</td>
<td></td>
</tr>
<tr>
<td>Legal Environment of Business</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Financial and Managerial Accounting</td>
<td>6 hrs</td>
<td></td>
</tr>
<tr>
<td>Microcomputer Applications</td>
<td>3 hrs</td>
<td></td>
</tr>
<tr>
<td>Business Calculus</td>
<td>3 hrs</td>
<td></td>
</tr>
</tbody>
</table>

*Must take a 6 hour sequence in any literature.
The specific credit for work done at other institutions that will apply toward the BSBA degree is determined by the College’s Office of Academic Assistance. Allowance of transfer credit by the Office of Admissions and Records does not necessarily mean that such credit will be applied toward a BSBA degree. All inquiries concerning the applicability of credit should be made to the College’s Office of Academic Assistance (256-824-6024).

Credit for business administration courses taken in schools with programs accredited by the AACSB International – The Association to Advance Collegiate Schools of Business is transferable to UAHuntsville. Credit for courses taken in programs without AACSB accreditation may be accepted with validation or approval of the Associate Dean.

Course work taken at a junior college after a student has earned more than 64 semester hours of credit may not be accepted for transfer. Courses taken at the lower-division at another institution that are upper-division courses at UAHuntsville will be accepted for transfer only after successful validation.

**Admission to the Upper-Division**

Pre-Business Classification. All undergraduate students entering the College of Business Administration are admitted with a pre-business classification (code L). Regular students remain in this classification until they are admitted to the upper division of the College of Business Administration. Any request for deviation from these requirements must be petitioned through the College’s Office of Academic Assistance. Business Administration students not admitted into the upper division may not attempt any business course numbered above 299. To have the pre-business classification changed students should apply through the College’s Office of Academic Assistance for admission to the upper division of the College.

Special Student Classification. Individuals admitted to the University as conditional/probational must have their status changed to regular through the Office of Student Records and complete all lower-division admission requirements before applying for admission to the upper division of the College and choosing a major. Special students may not attempt upper-division business courses.

Admission Standards. Admission to the upper-division of the College of Business Administration is available to students who have:

1. Completed 62 semester hours comprising the lower-division requirement.
2. Earned a minimum grade of “C” in both English Composition courses (EH 101 and 102).
3. Earned a minimum average GPA of 2.0 out of 4.0 (“C” average) for the 18 hours comprising the pre-professional business administration core.

Note: For degree-seeking students in the College of Business Administration, admission to the upper-division is a prerequisite for all upper-division courses (numbered 300-499) in the College. Degree-seeking students in the College registering in upper-division business courses without completing the prerequisites and without being admitted to the upper-division will be administratively withdrawn from those classes.

**Student Advisement and Enrollment**

The College’s Office of Academic Assistance is a student’s point of contact for information concerning possible majors, declaring a major, transfer credit and degree requirements. First-year students are required to plan their course selection with an academic advisor in the Office of Academic Assistance (Room 102; BAB, telephone 256-824-6024).

All College of Business Administration freshman and sophomore students must have their registration approved by the Office of Academic Assistance. Juniors and seniors who have met the following requirements do not need an advisor’s signature:

1. A formal declaration of major (signed by the academic advisor and the student) is on file in the UAHuntsville Records Office.
2. Satisfactory completion of the lower-division general education requirements and the preprofessional business administration core curriculum.

3. Attained a minimum GPA of 2.0 out of 4.0 ("C" average) in the combined lower-division general education requirements and the pre-professional business administration core curriculum.

Each student is responsible for registering for all required courses in their proper sequence and for fulfilling all requirements for admission and graduation.

**Types of Advising Assistance Available**

The focus of advising in the College of Business Administration is to help students progress toward their educational objectives. Advising is designed to provide assistance where desired and appropriate. Students, especially those nearing graduation, are encouraged to make full use of the advising system. The College’s advising system offers:

*Transcript Evaluation.* Two aspects of transcript evaluation affect students: (1) Evaluation of course work to be transferred to UAHuntsville for degree credit and (2) the continuing evaluation of completion of graduation requirements. The evaluation of transfer work is initially accomplished by the University’s Office of Admissions. Evaluation of business and economics course work is conducted by the Office of Academic Assistance, working with various departments within the College. The College’s Office of Academic Assistance also keeps a current record of each student’s progress at UAHuntsville.

*Schedule Building.* Schedule building is the determination of specific courses the student should take in a given semester. Students should refer to the UAHuntsville Schedule of Classes on the Web and the undergraduate catalog in consultation with the advisor to determine a specific course of study. Selection of specific course sections and times is the student’s responsibility.

*Program Planning.* Students are encouraged to outline an entire plan of study early in their academic career. This program planning activity is provided by the College’s Office of Academic Assistance and includes suggested model programs for each of the major fields of study offered by the College.

*Referrals.* Students seeking career guidance, personal counseling or other types of assistance will be directed to the appropriate university office by the Office of Academic Assistance.

**Probation and Dismissal**

Students are placed on probation at the end of any semester in which they do not attain a cumulative GPA necessary for satisfactory progress. For more detail on the process, see Academic Probation and Suspension. When dismissed, the student must petition the College of Business Administration for readmission. Application should be made in the Student Records Office, University Center.

**Residence Requirement**

At least 12 of the last 18 semester hours of a student’s program and a minimum of 32 semester hours of the total degree program must be completed at UAHuntsville. For BSBA students, the hours taken in residency must include at least 50 percent of the BSBA program (core curriculum and major option) including a minimum of 12 hours in the major option and MGT 499, Competitive Strategy. Students who are required to take additional courses within the College of Business Administration in order to meet the residence requirement may be required to complete more than 128 semester hours in order to graduate.

**Cooperative Education Program**
The College of Business Administration participates in the University’s Cooperative Education Program. The program is designed to provide relevant paid employment experiences that integrate, complement and enhance the student’s academic program. The students are placed in co-op positions in a variety of business settings, including government agencies, financial institutions, social agencies, accounting firms, entrepreneurial companies and many others. Co-op placements must be approved by the student’s faculty sponsor. Participation in the co-op program requires completion of designated entry-level courses. The program is open to both undergraduate and graduate students in business. More information is available from the business coordinator in the Office of Cooperative Education.

**Internship Program Guidelines**

The internship program is designed to provide professional work experience for students in a field relevant to their major. The program consists of 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. The course grade will be given on a satisfactory (S) unsatisfactory (U) basis. The prerequisites are junior standing, 9 semester hours of upper-division work in the student’s discipline, and approval of the department chair.

In addition to making a judgment on the merit, quality, and relevance of the proposed internship program, the chair will require the following academic prerequisites prior to approval:

1. Completion of sufficient coursework in the major relevant to the internship project
2. A minimum GPA of 2.75 in all courses attempted in the College
3. Completion of at least 15 semester hours at UAHuntsville.

An internship may be elected only once, i.e. a maximum of 3 semester hours toward the BSBA degree. The internship may count as an elective within the major. Internships include the following: ACC 495, FIN 495, MGT 495, IS 495, MKT 495, MKT 496, and MSC 495.

The cooperative education program is different from an internship. An internship differs from cooperative education based on the fact that the experience is for the duration of a single semester. Internships generally require 120 hours of on-site experience for the three credit hour course. For a 15 week semester this averages approximately 8 hours per week.

Interested students should contact the office of Academic Assistance in Room 102 BAB.

**Grading**

Business administration courses are not offered with a pass/fail grading option. In addition, majors in the College of Business Administration are not eligible for the pass/fail option for general education requirement courses, lower division (pre-professional) core courses, upper division core courses or major courses.

**Catalog Requirements and Changes**

The College of Business Administration reserves the right to modify curricula and specific courses of instruction including course prerequisites, to alter requirements for graduation and to change the majors to be awarded at any time the College may determine. Such changes may be applicable to either prospective or currently enrolled students.

All College of Business Administration students enter the College under all university and College policies then in effect. Each student is responsible for meeting all catalog requirements for graduation, including taking courses in the proper sequence as shown in the catalog.

Due to rapid advancement in knowledge, a student is permitted seven years from the original date of entry to complete a four-year curriculum, after which time a re-evaluation of all work previously taken may be required. Each time a
student changes a major or option, a re-evaluation of all work already taken is done in terms of that particular program’s requirements. It may occasionally be necessary to revise the curriculum for the BSBA degree. However, any student may graduate under the catalog in effect at the time he or she entered the university, provided that all degree requirements are satisfied within seven years from the day of admission.

Any deviations from curricular and other College requirements (for example, substitution of courses) must be approved in writing in advance of the deviation. Such changes must be approved by the student’s department chair.

**Majors in the B.S.B.A. Degree**

The College offers the following majors: accounting, finance, management, marketing, and information systems.

**Accounting and Finance**

350 Business Administration Building  
Telephone: (256) 824-6159  
Email: burnettj@uah.edu

Professor Evans; Burnett (Chair); Associate Professors Baldwin, Rose-Green and Xing; Emeritus Associate Professor Bryson; Assistant Professor Allport and Gamble; Clinical Assistant Professor Hickman; Lecturer Brof, Fowler.

**Mission**

The Department of Accounting and Finance provides academically rigorous programs in accounting 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 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 to 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 a 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. The Alabama State Board of Public Accountancy requires 150 semester hours of credit in order to sit for the CPA examination. The College offers a Master of Accountancy (MAcc) degree that meets or exceeds requirements for professional accounting certification.

The Department of Accounting and Finance offers four accounting concentrations for the BSBA degree: General Accounting; CPA Preparatory with an emphasis in Assurance and Financial Reporting; CPA Preparatory with an emphasis in Taxation; and Federal Contract Accounting. The CPA concentrations may be used as part of a 4 + 1 program (4 years of undergraduate study plus 1 year of graduate study) ending with the Master of Accountancy (MAcc). The 4+1 program also provides the graduate with enough graduate-level hours in accounting to teach accounting at the community college and university levels. The accounting major is offered during the day and during the evening.
Finance

Finance careers vary widely in today’s complex, global economy. The finance curriculum equips graduates with the modern analytic principles of the discipline that prepare them to function in a wide variety of institutional settings. The 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 and all its personnel, 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.

Students considering the professional certification examinations upon graduation, such as the Certified Cash Manager, Certified in Financial Management, the Certified Management Accountant (CMA), Certified Financial Planner, or Chartered Financial Analyst, may need course work beyond the minimum requirements for the BSBA degree. Students are encouraged to identify the special requirements early in their academic careers.

The Department of Accounting and Finance offers four finance concentrations for the BSBA degree: General Finance; Corporate Finance; Investments and Financial Institutions; Banking and Financial Institutions; and Federal Contract Management. The finance major is offered only during the day.

Economics and Information Systems

333 Business Administration Building
Telephone: (256) 824-6590
Email: wilhitea@uah.edu

Professors Wilhite (Department Chair), Gupta (Eminent Scholar), Schnell; Associate Professors Allen, Li, Mok, Patnayakuni; Assistant Professors Hartono, Liu, Orman; Clinical Assistant Professor Ye.

Mission

The Department of Economics and Information Systems provides academically rigorous courses to develop critical thinking skills. Our major in the Information Systems emphasizes the application of theory and skills in scientific, technological, and traditional business environments. The departmental faculty develops and disseminates knowledge related to economics and information systems concepts and practices.

Management and Marketing

355 Business Administration Building
Telephone: (256) 824-6680
Email: wrenb@uah.edu

Professors Berkowitz, Gramm, Greenwood, Sherman, Simpson, Tseng; Research Professor Rhoades; Associate Professors Bao, Fong, Landry, Wren (Chair); Assistant Professor Mackenzie; Associate Research Professor Ballenger; Assistant Research Professor Harris; Clinical Assistant Professors Cates, Kallam, Rieder, Woodward.

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. The departmental faculty also develops and disseminates knowledge related to the management of organizations, personnel and exchange relationships.

**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 or governmental organizations. Students may elect one of four potential concentrations.

The Human Resource Management concentration focuses on the various functions of personnel administration, in addition to organizational behavior and labor relations. This concentration would be appropriate for students planning to enter positions as a personnel staff specialist, training director, wage and salary specialist, employment manager, benefits administrator, and industrial relations supervisor.

The Acquisition Management concentration focuses on the management of government contracts in the aerospace and defense industries. 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 with the Federal government or in similar positions with government contractors.

The Supply Chain Management concentration focuses on transportation, logistics, inventory management, distribution operations, information systems as applied to supply chain integration, and strategic decision making in the management of a firm’s supply chain. The concentration is designed to prepare students for careers with industrial firms in the supply chain function or for public sector careers in military logistics with the Department of Defense.

The fourth concentration is in General Management. This 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 entrepreneurial careers in small business or careers in international business may wish to plan their program of study to accommodate such career goals.

**Marketing**

A major in marketing allows those students with interests in developing and promoting products and services to gain the knowledge and skills needed to pursue careers in marketing management, product management, marketing research, advertising, sales, internet marketers, supply chain management and acquisition. Since marketing is such a diverse area, the curriculum has been divided into three concentrations.

The marketing management concentration focuses on the marketing activities involved in the producer-customer exchange process. In order for businesses to successfully complete this process, they need to consider things such as buyer behavior, channels of distribution, promotional activities, product development and relationship management. Marketing managers also conduct market research to investigate customer needs and determine appropriate marketing strategies. Marketing managers are responsible for the total development process for a firm’s products and services. With an emphasis on a high technology environment, this concentration prepares students for careers in a variety of business and public sector organizations.

The supply chain management concentration involves all areas of the supply chain, from planning to distribution. The supply chain concentration prepares marketing students 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 Acquisition Management concentration focuses on activities and programs designed to obtain from suppliers the services and materials necessary to produce products and services. The program focuses on the management of government contracts in the aerospace and defense industries. It includes contract administration, cost and price analysis, contract negotiation, and government contract law. This concentration prepares marketing students for entry level professional positions in acquisition with the Federal government, government contractors and traditional industries.

Engineering

102 Engineering Building  
Telephone: (256) 824-6474  
Email: dean@eb.uah.edu  
Web page: http://www.eng.uah.edu

Dean:
Shankar Mahalingam, BTechME, MSME, Ph.D., Professor of Mechanical Engineering

Associate Dean:
Richard M. Wyskida, B.S.E.E., M.S.I.E., Ph.D., P.E., Professor of Industrial and Systems Engineering

Associate Dean for Student Affairs:
Sherri L. Messimer, B.S.I.E., M.S.I.E., Ph.D., Associate Professor of Industrial and Systems Engineering

Mission

The mission of the College of Engineering at The University of Alabama in Huntsville is to provide students with a quality educational experience that includes engineering theory, design, experimentation and application. The College is dedicated to achieving national and international recognition for excellence in engineering education, research and service.

Background

Engineering is the profession that translates scientific thought into reality. By combining synthesis, analysis, and design in creative and innovative modes, the engineer produces systems, processes, and products for the benefit of humankind. Those who desire to be part of this important effort can gain entry into the engineering profession by attending UAHuntsville. The UAHuntsville College of Engineering is located in an urban area and also in the state's high technology area. 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 a high quality faculty, affords maximum growth potential for those desiring to pursue a career in engineering. The College of Engineering is strongly committed to the advising of both undergraduate and graduate engineering students.
Laboratory fees have been eliminated from engineering courses. An equipment fee (presently $35.00 per semester hour) is assessed on all engineering courses. The proceeds are earmarked for the upgrading of engineering laboratories, and for the acquisition, maintenance, repair and replacement of instrumentation and equipment to support the various engineering programs.

Accreditation

The chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, and optical engineering options, together with the aerospace engineering option in mechanical engineering, are accredited by ABET, Inc. The degree awarded is the Bachelor of Science in Engineering (BSE).

Engineering Student Affairs

The College of Engineering provides freshman, sophomore, and transfer students with academic counseling through the Engineering Student Affairs (ESA) Office located in EB 157. The ESA is the engineering student source for all advising and registration guidance until achieving the junior academic status in engineering curriculum hours earned. At this point, the student (and the respective ESA student record) is transferred to the appropriate engineering program for advising, monitoring, and mentoring purposes. The ESA Office maintains a web page of advising information for all UAHuntsville engineering students. This page may be accessed through the College of Engineering web page.

A file is maintained in ESA for each engineering student who is classified as a freshman or a sophomore. Each file contains a Program Check Sheet that identifies all academic courses required for the BSE degree in the chosen option. The Check Sheet is utilized for recording student progress toward the degree. A flowchart of all courses (including prerequisites) required for the degree is available to assist in student advisement. Academic files are also maintained and include records of grade changes, petition outcomes, copy of disciplinary actions, approved course substitutions, etc. The engineering undergraduate transcripts, together with supporting material, provide evidence that the advising and transfer processes and procedures are working.

Degrees and Programs

The College of Engineering offers the BSE degree with options in: aerospace engineering (an option in mechanical engineering), chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, and optical engineering. The undergraduate engineering programs are built around a core consisting of courses in mathematics, the physical sciences, humanities, and engineering. Students then take additional engineering courses in the areas of their specializations. The net result is that at UAHuntsville, engineering students first develop breadth in important fundamental areas and then depth in their particular field of specialization. This provides an added dimension to UAHuntsville engineering graduates that enhances their professional performance. The UAHuntsville engineering student is also able to obtain “real world” engineering experience through the Cooperative Education Program or by part-time employment with the many governmental and industrial employers in Huntsville.

Graduate degrees offered include: the Master of Science in Engineering, Master of Science in Operations Research, Master of Science in Software Engineering, and the Doctor of Philosophy. Interaction with the high technology area of Huntsville strongly enhances the high quality engineering graduate programs and, thereby, offers the candidate a degree that has added significance.

When desirable, as evidenced from continuous studies, the College of Engineering may modify its curricula and specific courses of instruction, alter requirements for admission or for graduation, and change degrees to be awarded.
Dual Degree Agreement

The University of Alabama in Huntsville College of Engineering has a dual degree agreement with Oakwood College in Huntsville. Under this agreement a student spends approximately three years at Oakwood College and approximately two years at UAHuntsville. Upon completion of all requirements, the student will be awarded the BSE degree from UAHuntsville in one of the following areas: aerospace engineering option in mechanical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, industrial and systems engineering, mechanical engineering, or optical engineering. The student will also receive the Bachelor of Science in Applied Mathematics degree from Oakwood College. Students wishing to pursue a degree under this agreement should contact the Mathematics and Computer Science Department at Oakwood College.

Minors and Clusters

Engineering students wishing to obtain a minor in addition to their engineering major may do so in any program that provides the courses for a minor. Information on minors can be obtained from the respective program providing the minor.

Non-engineering students who wish to obtain an engineering cluster may do so in the following areas: circuits/digital electronics, electrical systems, music technology, mechanical engineering, and industrial and systems engineering. Information on engineering clusters can be obtained from the non-engineering student’s advisor.

Course Numbers

Course numbers are coded for engineering by prefixes as follows:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Engineering Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE</td>
<td>Aerospace Engineering in Mechanical Engineering</td>
</tr>
<tr>
<td>CHE</td>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>CE</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>CPE</td>
<td>Computer Engineering</td>
</tr>
<tr>
<td>EE</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>ISE</td>
<td>Industrial and Systems Engineering</td>
</tr>
<tr>
<td>MAE</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>OPE</td>
<td>Optical Engineering</td>
</tr>
</tbody>
</table>

Prerequisites

The College of Engineering requires, after matriculation, that a grade of C- or better be earned in each course that serves as a prerequisite to any course applied toward completing BSE degree requirements. If a grade of less than C- is
received in a course taken at UAHuntsville which is a prerequisite course, the course must be repeated and a grade of C- or better earned BEFORE a student enrolls in the subsequent course. A student not satisfying this requirement will be suspended from the College of Engineering. The student must petition the College of Engineering Academic Progress Committee through the Engineering Student Affairs Office in order to be readmitted.

Chemical and Materials Engineering

130 Engineering Building
Telephone: (256) 824-6810
Email: che@uah.edu

Degree: Bachelor of Science in Engineering

Professors Chen (Acting Chair), Cerro, Chittur, Smith, Williams; Associate Professors Banish, Weimer.

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.

Mission

The Department of Chemical and Materials Engineering is dedicated to developing and maintaining undergraduate and graduate programs that educate students in the safe control and manipulation of matter in industrially important chemical and materials systems. The faculty will continue to educate students and maintain its programs by providing intellectual leadership, innovative teaching, university and community service, while conducting internationally recognized research. Undergraduate and graduate programs within the department are continuously refined based on national standards and are designed to encourage interdisciplinary education. Research objectives focus on technology important to the further development of the university, the community, the state of Alabama, and the nation.

Civil and Environmental Engineering

S201 Technology Hall
Telephone: (256) 824-6854
Email: cee@eng.uah.edu

Degree: Bachelor of Science in Engineering

Professors Toutanji (Chair), Cruise, Karbhari, Leonard; Associate Professors Anderson, Ashour; Lecturer Al-Hamdan.

Civil engineers are involved in many aspects of modern life, such as structural engineering, transportation planning, environmental systems, and geotechnical analysis. The modern civil engineer uses traditional design and analysis methods as well as advanced experimental and computational techniques. At the University of Alabama in Huntsville, students are exposed to all of these areas of civil engineering and introduced to techniques that will make them competent practicing professional engineers. The Bachelor of Science in Engineering degree from the Civil and Environmental Engineering Department at UAHuntsville can be obtained by completing either a broad civil engineering curriculum or by specializing in structural, transportation, or environmental engineering. The civil
The undergraduate structural engineering stem at UAHuntsville provides students with a strong background in many aspects of structural analysis, foundations, reinforced concrete, and advanced structural design. The student may take additional courses in such areas as advanced concrete design, advanced cementitious and composite materials, experimental mechanics, and finite element methods.

The undergraduate environmental engineering concentration provides an education necessary for many aspects of environmental management and remediation. Within the framework of the program, students will be introduced to many topics, including water quality, atmospheric pollution, environmental systems, and environmental sampling.

The transportation engineering concentration provides students with the skills necessary to tackle tomorrow’s data 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.

**Electrical and Computer Engineering**

272 Engineering Building  
Telephone: (256) 824-6316  
Email: eceinfo@ece.uah.edu  
Degree: Bachelor of Science in Engineering  
Distinguished Professors Johnson, Singh; Professors Adhami, Boykin, Fork, Ho, Jarem, Kulick, Lindquist (chair), Milenkovic, Shen, Shtessel, Stensby, Wells; Professor Emeritus Audeh. Associate Professors Coe, English, Gaede, Guo, Joiner, Jovanov, Pan, Yoo; Assistant Professor; Lecturer Bowman, Corsetti, Hite; Adjunct Professors Berinato, Budge.

**Mission**

The mission of the Electrical and Computer Engineering Department is to develop and maintain high quality undergraduate and graduate programs in electrical, computer, and optical 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.

**Engineering Clusters in ECE**

The ECE Department offers three clusters that contain a minimum of 21 credit hours in ECE courses. The request for a cluster is initiated with the non-engineering student’s advisor.

*Electrical Systems: EE 100, 213, 214, 313, 315, 382, 383, 384, 425*  
*Circuits/Digital Electronics: EE 100, 213, 214, 305, 310, 313, 315, 382, 436.*  
*MUSIC TECHNOLOGY: EE 100, 213, 214, CPE 112, EE 315, 305, 382, 383, 384, 494.*
Double Majors in ECE

The ECE Department provides the opportunity for a double major with a primary major in CPE, EE, or OPE, and a distinctly different secondary major selected from EE, OPE, or CPE. None of the secondary major courses are permitted as primary major electives. The request for a double major should be submitted to the ECE Information/Advisory Office. Listed below are the possible double major combinations.

CPE-EE: 307, 313, and 3 courses from EE 425, 426, 424, or 447.
OPE-EE: EE 416, 424, 425, 494 and either 246 or 436.

Computer Engineering Option

The Department of Electrical and Computer Engineering offers a four-year program leading to a Bachelor of Science in Engineering degree with specialization in computer engineering. The purpose of the program is to produce a broadly educated individual, who qualifies as a professional in the analysis, design and application of computer systems. A broad background in engineering is developed through the engineering core curriculum and further courses from electrical and computer engineering. The program’s focus on computer engineering is developed through a blend of courses in computer engineering and computer science. The graduate computer engineer will be professionally qualified in a number of technical specialties that include computer architecture, embedded systems, interface design, communications and networking, and software engineering. In professional life, the computer engineer considers carefully the role of the engineer in dealing with a broad spectrum of commercial, legal, and ethical issues.

Industrial and Systems Engineering and Engineering Management

N143 Technology Hall
Telephone: (256) 824-6256
Email: ise@uah.edu

Degree: Bachelor of Science in Engineering

Professors Componation, Farrington, Swain (Chair), Wyskida; Associate Professors Gholston, Messimer, Utley; Research Professor Petty; Assistant Research Professors Benfield, Fortune, Harris; Adjunct Professors Safie; Adjunct Associate Professor Thomas; Adjunct Assistant Professor Fogle

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.

Vision
To achieve a national reputation for a curriculum that integrates state-of-the-art concepts of waste elimination, variability reduction and systems thinking, and develop nationally recognized research programs in team development, designing complex systems, process improvement frameworks, and transportation systems.

Mechanical and Aerospace Engineering

N274 Technology Hall  
Telephone: (256) 824-6154  
Email: mae@uah.edu

Degree: Bachelor of Science in Engineering

Distinguished Professors Chung, Wu (emeritus); Professors Coleman, Frederick, Frendi (Chair), Gilbert, Karr (emeritus), Wallace, Wessling; Associate Professors Landrum, Lin, Moser, Zuo; Assistant Professors Bardot, Cassibry, Evans, Fahimi, Shotorban, Slegers, Wang; Lecturers Carmen, Hembree, Skinner, Thompson; Research Professors Blackmon, Snider; Adjunct Associate Professor Ooi.

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 engineering profession in general and in the mechanical and aerospace engineering disciplines in particular and to support the diverse mechanical and aerospace engineering needs of Huntsville, the State of Alabama, the region, our nation, and the international community.

To accomplish this mission the department seeks to

1. inspire students to attain the highest levels of intellectual and personal growth throughout their lives;
2. enable students and faculty to make lasting contributions to the advancement of knowledge and the creative practice of engineering;
3. equip students with the ability to use modern engineering tools for design, analysis, experimentation, and development;
4. engage the faculty in service that enhances the public’s understanding of technology for the betterment of society;
5. provide leadership in engineering education, research, and practice;
6. promote equality of opportunity for engineering education;
7. produce graduates who are well prepared to meet the challenges of a modern, dynamic engineering environment; and
8. capitalize on the unique opportunities for collaboration with the local high technology community.

Department Calculator and Electronic Devices Policy

The Department of Mechanical and Aerospace Engineering has established a department wide calculator and electronic devices policy that is more restrictive than the policy articulated in the Student Handbook. The policy is: no electronic devices are to be in sight during an examination with the exception of approved calculators. The only calculators that can be used on examinations in the Department of Mechanical and Aerospace Engineering courses are those approved by the National Council of Examiners for Engineering and Surveying (NCEES) for the Fundamentals of Engineering Examination (www.ncees.org). Please see the MAE department web site for a list of approved calculators.
Aerospace Engineering Option in Mechanical Engineering

Aerospace engineering is a diverse and rapidly changing field that consists of four primary technology areas: aerodynamics, structures and materials, propulsion, and flight mechanics and control. Aerospace engineers have traditionally applied their knowledge in these areas to the design and development of high performance flight systems such as aircraft, rotorcraft, spacecraft, missiles and rockets. However, today’s aerospace engineer may also work in areas such as ground transportation systems ( automobiles, trains and nautical craft), power generation (wind and hydroturbines), and environmental aerodynamics (wind loads on structures, atmospheric pollutant dispersal). At UAHuntsville a student may obtain a BSE degree option in mechanical engineering with a concentration in aerospace engineering. The curriculum for the aerospace concentration is essentially the same as that for the mechanical engineering option through the sophomore year. At that time the student takes a series of specialized aerospace engineering courses in aerodynamics, propulsion, structures, design, and flight mechanics. These courses can also be used as technical electives in other engineering and science programs.

Liberal Arts

256 Morton Hall
Telephone: (256) 824-6200
Email: dean-la@uah.edu
Dean: Glenn T. Dasher, BFA, MFA, Professor of Art - Sculpture

The College of Liberal Arts provides educational experiences and programs of study in the major fields of the arts, humanities, and social sciences. These programs are designed to contribute to the intellectual development of students and to assist them in preparing for successful careers by emphasizing the development of written and oral communication skills, critical analysis, and problem solving abilities. They also promote an understanding of relationships among people as well as an awareness of the relationship between human beings and elements of the physical and biological world.

The arts and the humanities, encompassing art, history, languages and literatures, music, and philosophy, lead to a cognizance and appreciation of life as humankind has perceived it and as individuals have lived it. This study leads to heightened critical faculty, cultivation of taste, and the ability to be more effective in utilizing language and in appreciating, using, and evaluating values and ideas. The study of the arts and the humanities is essential to a broad and sensitive awareness of humankind as it has been, is, and aspires to be.

The social sciences encompass the knowledge that deals with the behavior of humankind and the culture it has created, knowledge that becomes more necessary as the world grows more complex and interrelated. Social scientists perform a dual function, assembling and ordering complex systems of technical knowledge related to human relationships and providing a continual appraisal of the value systems in our society. The social science programs at UAHuntsville (political science, psychology, and sociology) are designed to prepare the student to value and perform both of these roles. Since these disciplines are concerned with a social milieu that is both possible and desirable, the approach involves both the understanding and use of the scientific method and an appreciation of and sensitivity to questions of values.

The College of Liberal Arts offers courses of study that provides its students, and those in the sciences, with the preparation that is necessary to gain teacher certification. These programs include the in-depth study of at least one field in the liberal arts and sciences and intensive professional training in the field of education.

Throughout its curriculum, the College of Liberal Arts attempts to utilize and build upon the richness and diversity of our tradition and diverse talents of our faculty in preparing persons to be secure, productive, and successful in a free and humane society. Its goals are to aid in the development of more sensitive and successful scientists, more creative
and powerful artists, and more disciplined students of the humanities. In sum, it seeks to contribute to the individual’s
development as a well-rounded and capable person and professional who is prepared to undertake successfully and to
provide leadership in effectively confronting the many challenges of life.

Mission

The College of Liberal Arts is committed to excellence in teaching, research, and service in the following disciplines:

- fine arts, humanities, the 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,
avabilities 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.

Accreditation

The University of Alabama in Huntsville is accredited by the Commission on Colleges of the Southern Association of
Colleges and Schools, and the College of Liberal Arts thus offers baccalaureate and graduate programs under the
auspices of that accrediting body. In addition, the University of Alabama in Huntsville is an accredited institutional
member of the National Association of Schools of Art and Design (NASAD) and the National Association of Schools
of Music (NASM). Teacher education programs are 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, and the Department of Education at
The University of Alabama in Huntsville is accredited by the National Council for Accreditation of Teacher Education
(NCATE).

Facilities

The College of Liberal Arts utilizes the facilities and resources of the entire University. However, the College is housed
primarily in three buildings, namely Morton Hall, Roberts Hall, and Wilson Hall. Critical to study of the liberal arts is
the Salmon Library, located in close proximity to Morton, Roberts, and Wilson Halls. Supporting facilities include the
Writing Center located on the second floor of Morton Hall, an instructional computer laboratory on the second floor of
Salmon Library, art galleries in the Salmon Library, Wilson Hall, and the Union Grove Gallery and Meeting Hall, an
historic church moved to campus in 1974 and currently used as an art gallery and a meeting place for students and
faculty.

The Humanities Center

The Humanities Center was established in 1991 with the aid of an award from the National Endowment for the
Humanities (NEH). The NEH award was a challenge grant that was subsequently matched by funds from other sources,
including public, corporate, and private giving, to create the three endowments that support the Center’s activities in
five areas: hiring of eminent and visiting scholars, library enhancement grants, public programming grants, faculty
travel, and faculty research. The Humanities Center is located on the third floor of Roberts Hall.
The College of Liberal Arts awards the Bachelor of Arts degree. A student’s Program of Study must total at least 128 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 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 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 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 39 semester hours of a student’s Program of Study must be at the 300-level or above.

Students initiate a Program of Study with the College of Liberal Arts Academic Advisor who works in consultation and cooperation with departmental chairs to tailor a student’s Program of Study. Elements of the Program of Study are subject to approval of the chairs of the student’s major and minor departments. Cognate studies are subject to approval of the chair of the student’s major department. All Programs of Study are subject to approval by the Dean of the College.

Availability of majors, minors, and cognates are summarized below. Please see the Department of Education section of the catalog for complete information about teacher certification programs.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Major Available</th>
<th>Minor/Cognate Available</th>
<th>Possible Foci</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art and Art History</td>
<td>Yes</td>
<td>Yes</td>
<td>Studio (including Graphic Design) and Art History</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Communication Arts</td>
<td>Yes</td>
<td>Yes</td>
<td>Rhetoric, Technical Communications</td>
</tr>
<tr>
<td>Computer-Mediated Communication (Web Design)</td>
<td>No</td>
<td>Yes</td>
<td>Cognate Studies Available</td>
</tr>
<tr>
<td>Elementary Education (Teacher Preparation)</td>
<td>Yes</td>
<td>No</td>
<td>Elementary, Collaborative-Special Education</td>
</tr>
<tr>
<td>Secondary Education* (Teacher Preparation)</td>
<td>See Foci</td>
<td></td>
<td>Discipline Majors: Biology, Chemistry, English, History, Mathematics, Physics, French, German, Spanish, Russian, Music (P-12)</td>
</tr>
<tr>
<td>English*</td>
<td>Yes</td>
<td>Yes</td>
<td>Literature, Technical Writing, Teacher Preparation</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Yes</td>
<td>Yes</td>
<td>French, German, Russian, Spanish, Foreign Language and International Trade, Teacher Preparation</td>
</tr>
<tr>
<td>Global Studies History*</td>
<td>No</td>
<td>Yes</td>
<td>Cognate Studies Available</td>
</tr>
</tbody>
</table>
Graduate Degrees and Study

Graduate study in the College of Liberal Arts brings together faculty and advanced students to share the excitement of creative learning. All degree candidates plan a program of study with faculty members who share the student’s intellectual interests. Within the framework of the requirements established by the Department and the School of Graduate Studies, students design, in consultation with a faculty advisor, a graduate program fitted to their particular interests and needs.

The College of Liberal Arts offers programs of study leading to the Master of Arts Degree with concentrations in English, History, Psychology, and Public Affairs. Class “A” teacher certification is available with concentrations in English and history in the College of Liberal Arts and biology, chemistry, mathematics, or physics in the College of Science. Certification may be achieved through either traditional or non-traditional “fifth year” approaches.

Academic Information, Advisement and Policies

Admission to the College of Liberal Arts

Entering students who meet all university admission requirements for regular admission status may be admitted to the College of Liberal Arts upon designation of a discipline major that is housed within the College, with the exception of the disciplines of music and teacher education preparation programs. Students planning to major in either music or teacher preparation programs should refer to the appropriate departmental section of the catalog for specific admission requirements for those programs. Students seeking transfer to the College of Liberal Arts from other colleges on the UAHuntsville campus must have earned a 2.0 overall GPA to be admitted to the College of Liberal Arts.
Students from Alabama community colleges who plan to transfer to the College of Liberal Arts at UAHuntsville are advised to consult the STARS advisement website (http://stars.troy.edu) or to contact the College of Liberal Arts Academic Advisor for assistance. Additionally, such prospective UAHuntsville students are advised to read the Transfer Student section of this catalog.

**Academic Advising in the College of Liberal Arts**

The College of Liberal Arts provides academic advising for its students through the various academic departments and through the office of the Academic Advisor for the College of Liberal Arts. All students are strongly encouraged to seek advising assistance at the beginning of their academic careers and to continue working with their advisors throughout their academic experience. All freshmen and most sophomores with an expressed interest in liberal arts are advised by the Academic Advisor for the College of Liberal Arts, who is located in Room 220 Morton Hall; phone 824-2867; email: bellf@uah.edu. In addition, a Prelaw Advisor is available to assist those who plan to apply for admission to law school.

The goals of academic advising include: 1) assisting students in planning academic and life goals; 2) assisting students in their personal adjustment to the UAHuntsville 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; and 5) facilitating student success.

The College of Liberal Arts Academic Advisor assists students in fulfilling the General Education Requirements and, in concert with faculty advisors, provides information about possible major fields. An official declaration of major should be filed by the end of the sophomore year. When a student decides on a specific major and minor, the student will then initiate a Program of Study with the College of Liberal Arts Academic Advisor. Subsequent to completion of a Program of Study, the student is advised by faculty within the declared major(s) and minor(s). These faculty members are specialists in their fields of interest.

**Classical Studies**

Dr. Richard Gerberding, Director  
410 Roberts Hall  
Telephone (256) 824-6310  
Email: gerberdingr@email.uah.edu  
College of Liberal Arts 246

Classical studies is a program designed to impart an academic familiarity with the languages, history, and culture of ancient Mediterranean society. Its program of study includes various courses taught by several departments within the College of Liberal Arts, arranged so as to fulfill a student’s requirements for an academic minor.

**Global Studies Program**

Dr. David Johnson, Director  
253 Morton Hall  
Telephone: (256) 824-6288  
Email: johnsod1@uah.edu

The Global Studies cognate is an interdisciplinary cognate aimed at students interested in pursuing in-depth study of the world outside the United States. The cognate is designed around a core of courses that provide a strong foundation in Global Studies, while also allowing students the flexibility in their choice of electives to tailor the course of study to
their individual needs and interests. The Global Studies Program also administers faculty-led study abroad courses and programs.

**Art and Art History**

313 Roberts Hall  
Telephone: (256) 824-6114  
Email: art@uah.edu

Professor Dasher; Associate Professors Johnson, Jones, Joyce (Acting Chair), Stewart; Assistant Professors Gardner, Betancourt; Lecturers Veasey, Vines; Visiting Assistant Professor Kuehnle.

**Mission**

The Department of Art and Art History, an accredited institutional member of the National Association of Schools of Art and Design, is dedicated to preparing students with the knowledge and skills necessary for pursuing lives as artists, designers, and art historians, who will be creative, inquisitive, and well-rounded individuals, conscious of the important role that artistic endeavor and intellectual pursuit plays 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 Liberal Arts.

**Program**

The Department of Art and Art History offers courses in the studio arts and art history leading to a Bachelor of Arts major, a minor, or as part of a program of cognate studies in art or art history. Students pursuing a program of study in Art may focus on either the studio discipline or the art history discipline. The studio focus allows a student to specialize at the upper division in drawing/painting, graphic design, photography, printmaking, or sculpture.

Any student enrolled at the university is encouraged to consider taking art courses as a major, a minor, or simply as electives for personal enrichment through involvement with the visual arts or art history. Please note however, that due to increasing enrollment demands, placement in all art and art history courses is initially reserved for art majors and minors. All others will be admitted and welcomed if space is available.

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Transfer credit for equivalent coursework and advanced placement in art courses will be determined by the departmental chair. Art majors transferring to UAHuntsville must complete at least 12 semester hours of art courses at the 300-level or above at UAHuntsville. Art minors transferring in must take at least 6 semester hours of art courses at the 300-level or above.

**Communication Arts**

342 Morton Hall  
Telephone: (256) 824-6645  
Email: comm@uah.edu
The Department of Communication Arts offers a comprehensive program of study leading to a Bachelor of Arts degree. Majors and minors gain practical, critical, historical, and theoretical perspectives on human communication, preparing them for work, for social life, and for further academic studies. Majors elect to specialize in courses following two distinct tracks in communication arts: a rhetoric track and a technical communication track. The rhetoric track focuses upon how discourse—especially persuasive discourse—is adapted to various contexts. The technical communication track focuses specifically on the communication of technical information to non-technical audiences, particularly in written discourse. In addition, the department offers courses in theater, media writing, communication research, nonverbal communication, and other specialized communication contexts.

Mission

Department of Communication Arts offers a variety of classes that critically examine the public, professional, cultural and personal dimensions of human communication. Our comprehensive program strategically weaves together core courses in the humanistic tradition of rhetorical theory and practice with social-scientific perspectives on communication. This curriculum capitalizes on the field’s far-reaching theoretical span, having roots in ancient Greco-Roman civilizations, where rhetoric became the capstone of education and the lifeblood of civic activity, and having fecund branches in the communication media of the present and future.

Our department features teacher-scholars who support majors seeking work in professional communication, in business, and in other areas, or attending graduate school; minors who wish to supplement their majors with a focus on communication; and students from various colleges who rely on us to teach them practical communication skills or to learn to appreciate theatre. Our faculty will continue to serve student groups, the university, the community, and our profession.

Education

232-K Morton Hall
Telephone: (256) 824-6180
Email: educ@uah.edu

Associate Professors Dillihunt, Enger, and Piersma (chair); Assistant Professors, Kovacs, O’Brien, Pritchard, Smith; Visiting Assistant Professor Confer, Lecturer Patrick

Mission

The Department of Education defines its mission through three focal elements: 1) to prepare teachers and other school personnel who are academically strong, competent in both theory and practice, and prepared to contribute to the needs of a dynamic, complex world; 2) to provide an environment that encourages the department faculty to model sound pedagogy, engage in research and scholarly activities, and become leaders within their area of expertise; and 3) to make our teaching, research, and service available to the entire community in order to meet the changing needs of schools, organizations, and professional communities in our region, state, nation, and international community. The mission of the Department 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 teachers who are exceptionally well-prepared in disciplinary, pedagogical, and professional knowledge, who understand and are prepared to address the needs of all learners, and who are committed to serving as leaders in the educational community to ensure that all students receive a high-quality public or private education.
Accreditation

Teacher education programs at UAHuntsville are accredited by the National Council for Accreditation of Teacher Education (NCATE) 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.

Facilities

The Department of Education utilizes the facilities and resources of the entire university, the community, and the schools. The department maintains a special partnership with the teachers and students at University Place Elementary School adjacent to the UAHuntsville campus. Classrooms and faculty offices are located in Morton Hall. The department also maintains Elementary and Secondary Teacher Resource Centers in Morton Hall and a Computer Education Laboratory in the Salmon Library where current teaching materials are available and where laboratory classes are held. The Institute for Science Education, a resource center for teaching and research in science and mathematics, is located in Shelbie King Hall.

Services

In addition to its teaching function, the department provides in-service education for schools, agencies, and institutions of higher learning; conducts and disseminates research to solve educational problems; and provides consultative service to all types and levels of educational institutions.

Degrees and Programs Offered

Under the State of Alabama plan, there are five levels of teacher certification programs, namely, P-3, K-6, 4-8, 6-12, and P-12. The Department of Education offers all options except P-3. In conjunction with the College of Liberal Arts and the College of Science, the department offers both undergraduate and graduate certification programs. Candidates who complete the following undergraduate certification programs meet the requirements for the Highly Qualified Teacher in Alabama.

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, social science.

Collaborative Teacher –Special Education K-6 or 6-12

Middle School Endorsement (4-8) with teaching fields biology, chemistry, English language arts, foreign language (German, French, Spanish), general science, history, mathematics, physics, and social science

Music Education (P-12)

A minor is not available in education.

Academic Advising
Students who plan to enroll in the Teacher Education Program and qualify for teacher certification should contact the chair of the Department of Education to be assigned an advisor as early as the freshman year. Students are expected to consult their advisors about curricular and degree requirements. In addition, students are expected to consult with advisors from their teaching field departments to coordinate the planning of programs of study.

Career Services and Placement

The Career Services Office, 117 Engineering Building, assists all students who have completed an approved Teacher Education Program at UAHuntsville and who are eligible for an Alabama professional certificate, in seeking teaching positions. All teacher education students are encouraged to file their credentials with the Career Services Office during their senior year.

THE STATE BOARD OF EDUCATION PERIODICALLY REVISES THE REQUIREMENTS GOVERNING CERTIFICATION IN THE STATE OF ALABAMA. THEREFORE, REQUIREMENTS FOR DEGREES LEADING TO CERTIFICATION ARE SUBJECT TO CHANGE FROM THOSE PUBLISHED IN THIS CATALOG. THE STUDENT IS REQUIRED TO SEEK ADVISEMENT FROM THE EDUCATION DEPARTMENT (AS EARLY AS POSSIBLE IN THE PROGRAM OF STUDY) TO ENSURE THAT BOTH DEGREE REQUIREMENTS AND CERTIFICATION REQUIREMENTS ARE MET.

General Information

Student Responsibility. Education students are expected to register for appropriate courses necessary to make reasonable progress toward completing program requirements by the expected date of graduation. They must familiarize themselves with the requirements contained in this catalog and initiate the application process for a program of study. Faculty advisors are available to assist students as needed.

Local Mailing Address. Students are expected to maintain a mailing address at which communication from the department will, with reasonable certainty, reach them. The address should be recorded in the department office.

Registration and Enrollment. Education students seeking an institutional recommendation from UAHuntsville for professional certification must complete all professional education coursework at UAHuntsville. Transfer students will have their credits evaluated on an individual basis to determine course equivalency.

Course Substitution. When a course substitution in professional studies or the teaching field is desired, permission must be obtained prior to enrolling in the course. Students should contact the Certification Officer in the UAHuntsville Department of Education for appropriate forms. Written approval from the Department Chair is required. Courses taken without approval may prevent a student from completion as planned.

Course Repeat Policy. The UAHuntsville course repeat policy allows students to repeat courses on a limited basis in order to improve the grade in a course. Education students may take advantage of this policy in all subjects. Education students who receive a D in professional education or teaching field courses will be required to repeat the course at UAHuntsville. This is in compliance with the Alabama State Code of Education, but differs from the UAHuntsville course repeat policy in this regard. See the Academic Information section of this catalog for the UAHuntsville course repeat policy.

Program Completion. If a student does not complete requirements for the undergraduate degree within a period of seven years from the date of admission to UAHuntsville, the Department of Education will modify the student’s program to bring it into alignment with current degree and certification requirements. In addition, students in the teacher education program must complete that program’s requirements within four years from the date of formal admission to the program, or they must re-apply for admission.
Preadmission Requirements

File an Intent to Apply to the Teacher Education Program (TEP) with the Certification Officer as soon as a decision is made to seek teacher certification but no later than the end of the sophomore year. Apply for a Program of Study (POS) before or during the first semester of education courses. In addition, students must meet the following requirements:

1. No more than 2 courses of the General Education Requirements remain to be taken.
2. Minimum GPA of 2.5 and grades of C or higher in EH 101 & 102 (or EH 105), CM 113, MA 230, and PY 201.
3. 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 Teacher Education Program

Admission to the university does not qualify a student for admission to the Teacher Education Program. Students must submit an Application for Admission to the Teacher Education Program during the Block I semester of the education courses. They must also verify that an approved Program of Study (POS) is on file in the UAHuntsville Department of Education. In addition, students must meet the following requirements:

1. Minimum 2.75 GPA in Block I Education courses (ED 301, 305, 308, and 350) with no grade lower than a C.
2. Minimum 2.5 GPA in major or second area of study with no grade lower than C.
3. Satisfactory completion of required Block I Field Experiences.
4. Satisfactory completion on Application Essays
5. Three Letters of Recommendation.

Admission for transfer students. Transfer students who have completed two years of undergraduate study may be eligible to apply for admission to the TEP if they have a grade point average of 2.5 for 9 semester hours of coursework at UAHuntsville and meet other preadmission requirements.

Admission by reciprocity. Students who have been admitted to a teacher education program at an accredited university or college in Alabama may apply for reciprocal admission to the Teacher Education Program (TEP) with the Certification Officer or the Department Chair.

Continuation in the Teacher Education Program

Requirements include:

1. Minimum 2.75 GPA in Education courses with no grade lower than C. Minimum grade of C is also required for MA 230.
2. Minimum 2.5 GPA in second area of study or teaching field with no grade lower than C.
3. Satisfactory ratings on Dispositions Assessments.
5. Passing Score on APTT.

If the above requirements are not met, a Personalized Professional Development Plan (PPDP) will be initiated. Candidates who do not meet the conditions of the PPDP may be dismissed from the Teacher Education Program.

Field Experiences
The Alabama State Department of Education requires that all teacher candidates complete a minimum of 200 hours of 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 50 hours of experience each semester.

**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 2.75 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.
3. Satisfactory ratings on Dispositions Assessments.
5. Passing Score on Praxis II.

**Application Dates:** January 31 for the following Fall Semester and June 30 for the following Spring Semester. Internships must be taken the last semester before graduation. All internship placements are coordinated by the Department of Education faculty. At UAHuntsville, 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.

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.

**Graduation**

To graduate, the student must have met all general University and degree program requirements as outlined in the catalogue. In addition, teacher candidates must have maintained a 2.5 grade-point average in all teaching field courses and a 2.75 in all professional education courses at UAHuntsville and/or all other institutions attended, with no grade lower than a “C” in all professional education courses including the internship, to be recommended for a teaching certificate.

**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. Approved undergraduate programs offered by the UAHuntsville Department 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 program requirements including satisfactory completion of the internship.
2. Satisfactory completion of the UAHuntsville Exit Portfolio Review and Praxis II.
3. Individuals who hold a valid Alabama substitute teacher’s license must submit to the certification officer a copy of the substitute license along with all certification application paperwork.
4. 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.

Certificate Renewal

1. The initial Class B certificate is valid for five years. This certification may be renewed upon verification of successful teaching for three years and completion of an approved professional development program or earning upper division or graduate level credit in the certification area.
2. Individuals who allow their certificates to lapse for more than 6 months will be required to renew their certificates, obtain another background clearance, and meet requirements of the Alabama Professional Teacher Testing (APTT) program for issuance of a renewed certificate or license. The UA Huntsville Department of Education in accordance with the Alabama State Board of Education provides courses for persons who wish to renew their certificates.

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 Department 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 the Alabama Professional Education Personnel Evaluation (PEPE) or comparable evaluations recognized and approved by the State Board of Education. This policy is consistent with the Alabama State Code of Education.

Teacher Education Programs at UA Huntsville

B.A. and/or B.S. programs are available for the following certification programs: biology, chemistry, collaborative teacher, elementary education, English-language arts, French, general science, German, history, mathematics, music, 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 Education Department about General Education Requirements for their program of study.)

English

222 Morton Hall
Telephone: (256) 824-6320
Email: eh@uah.edu

Professors Neff, Associate Professors Bell, Bollinger, Early, Nelson, Schenker (Chair), Assistant Professors Balla, Flint, Frost, Smith, Taylor; Lecturers Cross, Friedman, Gunn, McPherson, Roper, Shattuck, Singer, Word-Allbritton.

Mission Statement:

The Department of English is committed to excellence in teaching, research, and service in the following disciplines: British, American, and global literature in English; business writing and technical communication; writing pedagogy and composition theory; applied linguistics (English as a Second Language and Teaching English to Speakers of Other Languages); teacher education; and creative writing. The department serves non-majors, majors, and graduate students by providing a wide array of courses that foster sound research; intellectual curiosity; critical thinking and reading; and clear, graceful, and persuasive writing and speaking. Through its programs, graduates, and faculty, the department
contributes significantly to the cultural and academic enrichment and the quality of life of the campus, community, state, and region.

The Department of English offers courses to fulfill requirements for the major and minor in English at the bachelor’s degree level. It also offers a program leading to teacher certification, a cognate option in technical writing, and writing courses at a variety of levels, including English as a second language (ESL). A Master of Arts degree in English is described in the Graduate Catalog.

**CLEP Examinations.** EH 101: Score of 65 and superior performance on Freshman College Composition Essay. EH 102: Successful CLEP credit for EH 101, score of 65 and superior performance on Analyzing and Interpreting Literature essay.

**Declaring the Major**

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

**Linguistics and English Language Studies**

The department offers a variety of courses related to General Linguistics, English Language, Grammar, and the Teaching of English to Speakers of Other Languages (TESOL). For those who are interested in the Teaching of English to Speakers of Other Languages (TESOL), the department offers a certificate in TESOL in conjunction with the M.A. degree and an independent TESOL certificate at the graduate level. Interested undergraduates may take courses, which would be helpful should they eventually want to go on for the TESOL certificate and M.A. degree. Such students should consult with the department chair.

**Foreign Languages and Literatures**

308 Morton Hall  
Telephone: (256) 824-6300  
Email: fll@email.uah.edu

Professor Goebel; Associate Professors Buksa, Gyasi, Maier, Assistant Professor Kaiura; Lecturer Keller.

The acquisition of a second language, and through it an understanding of another country’s literature and culture, is a rich academic experience for all students, particularly for liberal arts students. Because our foreign language courses are designed to teach the effective use of both oral and written foreign languages as well as to provide knowledge about culture and literature, students in all majors will advance their personal, academic, business, and professional lives through the study of foreign languages. In fact, in today’s world of global markets, political interdependence, and international scientific collaborations, knowledge of foreign cultures enhances one’s career opportunities and contributions as a citizen.

**Mission Statement**

The Department of Foreign Languages and Literatures 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 Languages
and International Trade. Minors and foreign language teacher certification are also offered, while Chinese, Italian, Japanese, classical Greek, and Latin can be taken at the introductory and intermediate levels. Language clubs and extracurricular activities contribute to a rich campus life. Internships give students a professional experience that greatly enhances their career opportunities after graduation.

The Department offers an integrated curriculum comprising the teaching of linguistic proficiency; the promotion of a critical awareness of other cultures; the development of writing skills in a nonnative language; and an aesthetic appreciation of literary and cinematic media in their social and historical contexts. In these efforts, the Department is aided by the cutting-edge technology of its digital language laboratory. Committed to the integrated triad of teaching, research, and service in the areas of foreign languages, literatures and other cultural media, such as film, in their historical, social, and interdisciplinary contexts, the Department promotes academic pluralism by fostering a variety of interpretive and pedagogical approaches.

By virtue of its commitment to the highest standards in teaching, research, and service, the Department of Foreign Languages and Literatures aims to uphold and further strengthen the national and international standing of UAHuntsville.

**Chinese*, French, German, Greek, Italian*, Japanese*, Latin*, Russian, Spanish**

The Department of Foreign Languages and Literatures offers the B.A. in Foreign Languages. A student may choose a focus language of French, German, Russian, or Spanish, and may also choose to concentrate in Foreign Languages and International Trade (in cooperation with the College of Business Administration and Departments of History and Political Science)

*Chinese, Italian, Japanese, Greek, and Latin courses can be taken to satisfy the language requirements or as electives.

**General Education Requirements and Placement Procedures**

Ten semester hours of credit in one foreign language are required for the B.A., unless the student can demonstrate a competence at a level more advanced than the beginning 101 course. The introductory sequence begins in the fall and continues in the spring semester so that students can complete the 10-hour general education requirements in one academic year. Native and quasi-native speakers of foreign language may not take introductory and intermediate courses, nor the first advanced conversation course in that language. Students in this category must make an appointment with the appropriate language coordinator to take a departmental placement examination. They must still take a minimum of three additional hours of course work to complete General Education Requirements.

**Placement Procedures**

Students with a 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, and 5) native language experience.

**Placement test.** The Department of Foreign Languages and Literatures administers a computer-based placement test for French, German, and Spanish. The test may be scheduled by phoning the Department or by visiting the language lab located in Morton Hall, Room 300.
**High school experience.** Students who studied a foreign language in high school will be placed according to the following scale:

<table>
<thead>
<tr>
<th>Placement Level</th>
<th>Language in High School</th>
<th>Courses to Be Taken to Satisfy Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st level (101)</td>
<td>0-2 units*</td>
<td>101, 102 (5 hours each)</td>
</tr>
<tr>
<td>2nd level (102)</td>
<td>3-4 units</td>
<td>102 (5 hours)</td>
</tr>
</tbody>
</table>

*Minimum grade of C required for a unit to be counted.

If an interval of two years or more occurs between study of a language in high school and continuation of that language in college, placement levels may be adjusted downward to entry level.

**CLEP Examination.** Students with a prior knowledge of French, German or Spanish may take the CLEP examination for the equivalent of FL101 and FL102. Irrespective of the resultant placement, the student will have to take a minimum of three additional hours of course work to fulfill the language requirement. The test is administered by the UAHuntsville Testing Services, located in the Business Administration Building, Room 226, and must be taken prior to enrollment in foreign language classes. Tests are given once each semester and monthly during the summer, see Testing Services for dates. Interested students should contact the respective foreign language coordinator for further information. By taking the CLEP test, a student may receive credit hours with no quality points depending on placement level and score. Since there is no CLEP test for Russian, students of that language may take a special departmental test under the same conditions as the CLEP examination. See the Russian language coordinator.

**Advanced Placement Examination.** The Foreign Language Department 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: 10 hours credit (i.e. through 102, 5 hours each course), Score of 4: 13 hours credit (through 200), Score of 5: 16 hours credit (through 301). The credit thus awarded will be recorded without grades or quality points and will not therefore, be included in the calculation of the grade point average. Moreover, regardless of the student’s AP score, he or she will be required to complete successfully one additional course (3 credit hours) of the appropriate language.

**Native Language Experience.** Native and quasi-native speakers of foreign language may not take introductory and intermediate courses, nor the first advanced conversation course in that language. Students in this category must make an appointment with the appropriate language coordinator to take a departmental placement examination. Those planning to major or minor in the language may earn up to sixteen (16) hours of credit with no grade or quality points.

**Supporting Minors and Cognates for Foreign Language Majors**

Foreign Language majors may select any minor or approved cognate offered within the University of Alabama in Huntsville. However, certain minors may enhance the student’s opportunities for certain career choices. Two of these are a minor in international business and the teacher certification designation.

**History**

409 Roberts Hall  
Telephone: (256) 824-6310  
Email: history@uah.edu
The Department of History offers the B.A. and M.A. degrees in history and a minor in history. The M.A. degree program is described in the Graduate Catalog.

Mission

The Department of History is committed to excellence in the areas of teaching, research and service. It offers an undergraduate B.A., as well as a minor, and a Master’s degree aimed primarily at fostering stronger middle and secondary school education in history. Since historical study embraces the entire record of human accomplishments and failures, the department’s Western Civilization sequence (HY 101, 102) and World History offerings (HY 103, 104) are a fundamental component of the General Education Requirements of the Colleges of Liberal Arts and Science. The department’s commitment to these courses reflects its belief that history’s very scope makes it an invaluable tool in interpreting the present. It illustrates the interdependence of all forms of knowledge and bridges gaps among disciplines by putting ideas into a social context and their place in time. For students who choose to pursue history as a course of study, the curriculum seeks to provide depth and perspective on complex social problems, and its critical approach to the human past cautions against simplistic solutions. Through an examination of the flow of events, historical study demonstrates how the forces of continuity and change intersect. By demonstrating the role of chance and contingency, and of purposeful activity in human affairs, historical study assists students in acquiring discrimination, understanding and balanced judgment. Students are taught that because the sheer abundance of historical documentation demands selection, interpretation, creativity, and clarity of expression to make them meaningful to the current generation, history is both an art and a science.

The History curriculum is also a component of the Foreign Language and International Trade program, and of the new Global Studies cognate. The department’s majors who complete Class A&B certificates in education meet all the requirements of the “No Child Left Behind” law. Beyond offering classes, the department actively pursues links with county and city schools for pedagogical and recruitment purposes through on-campus programs and off-campus collaboration. To sustain excellence in teaching and to foster individual professional growth, the department expects faculty to pursue activities in research and publication and to participate actively in professional organizations.

Music

206 Roberts Hall
Telephone: (256) 824-6436
Email: music@email.uah.edu

Professor Emeritus Boyer; Professor Sanders; Associate Professors Bowyer (Chair), Wray; Assistant Professors Baltaian, Colwitz, Ragsdale; Adjunct Faculty I. Weaver, P. Weaver.

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 Liberal Arts Academic Advisor (Morton Hall, Room 220).

Mission

The Department of Music at the University of Alabama in Huntsville seeks to provide for music majors a program of superior quality, where all students are given the opportunity to experience music as an academic discipline and as an
art form. Its academic courses foster in students an understanding of music as an art and the appreciation of the best in 
music literature in order to enhance and enrich their lives. Its ensembles and performance-related curricula expose 
students to the artistic and communicative values of music.

The Faculty of the Department of Music strives to provide leadership in artistic endeavors as well as cultural 
enrichment within the academic community and the participation in regional, national, and international forums.

**Courses for the General Student (Non-Music Majors)**

The following courses and ensembles are open to all university students; **most ensembles require an audition.** Upper-
level credit is available for some courses. Students may also receive studio instruction (private lessons) in voice and in 
nearly every classical or jazz musical instrument.

MU 100 Introduction to Music Literature
MU 102 Introduction to World Music
MUA 390 UAHuntsville Concert Choir
MUA 391 UAHuntsville Chamber Choir
MUA 392 Tenor-Bass Chorale
MUA 393 Women’s Choir
MUA 396 Chamber Ensembles
MUA 397 University Band
MUA 398 Jazz Ensemble
MUA 399 UAHuntsville Wind Ensemble
MUJ 301 Jazz Improvisation I
MUJ 302 Jazz Improvisation II
MUJ 396 Jazz Chamber Ensemble

**Philosophy**

332 Morton Hall
Telephone (256) 824-6555
Email: philos@uah.edu

Professors Cling (Chair), Wilkerson; Martine; Associate Professors Heikes; Assistant Professor Jones.

**Mission**

The chief concern of the UAHuntsville Department of Philosophy is to promote the critical evaluation of the 
fundamental assumptions that structure the range of human experiences. Questions concerning the nature and extent of 
knowledge, the character of reality, the foundations of value, and the distinction between correct and incorrect 
reasoning can only be considered in a disciplined and responsible fashion by moving beyond an uncritical acceptance 
of "common sense" beliefs and mere opinions. It is the special province of philosophy to articulate these assumptions, 
to evaluate them, and to propose and defend alternatives, where necessary. Philosophy examines influential historical 
and contemporary positions on these assumptions and the problems they raise, and promotes the development and 
refinement of the skills necessary to address them responsibly. This kind of critical reflection is recognized as a crucial 
responsibility of UAHuntsville in its mission statement. As a result, the work of the faculty of the Philosophy 
Department has a direct and immediate effect upon the university's ability to succeed in its fundamental mission to 
"foster creative and critical thinking, clear communication, a respect for knowledge and the pursuit of truth, and an
engagement in the challenge and pleasure of a lifetime of learning." Moreover, the success of a democratic society depends upon the ability of its citizens and leaders to participate in an informed and serious debate about the issues around which the philosophy curriculum is structured.

Our primary goal is to educate our students in ways that enable them both to understand and to accept their responsibilities as citizens and future leaders and to succeed in their professional lives in any of the various areas for which undergraduate education in philosophy prepares them. Since this goal can only be attained by a faculty that is actively engaged in philosophical inquiry, it is also our goal to promote the active development and dissemination of high-quality research. We therefore expect every member of the department to be actively engaged in the production and publication of original philosophical works. The Department also takes seriously its service responsibilities to the community and therefore promotes educational activities and programs for the university and larger community.

Political Science

250 Morton Hall
Telephone: (256) 824-6192
Email: polsci@uah.edu

Professors Emeriti Meek, Spitz, Williams; Professor Pottenger; Associate Professors Choup, Hawk, Reeves, Assistant Professor Bridgmon.

Mission

The Department of Political Science, along with the Departments of Sociology and Psychology, represent the Social Sciences in the College of Liberal Arts. Our curriculum provides a major and a minor in traditional political science with courses offered on American government, comparative politics, international relations, political theory, and American law. The department also offers a graduate program in public affairs. Faculty members are committed to effective teaching, active public service, and both traditional and applied scholarship.

The Department of Political Science offers the Bachelor of Arts in political science and the Master of Arts in public affairs.

Political science is the study of government, governance, politics, and the state. The major sub-fields of the discipline include political theory and philosophy, international relations, foreign governments and comparative politics, public law, research methods, public policy, and American politics. The latter includes national, state, and local political institutions and processes, federalism, and intergovernmental relations.

Internship Programs

The Department of Political Science has an internship option for students in political science and public affairs. Internships bridge the gap between learning experience and entry into professional life. Normally, students must have junior status or above to be considered for this option.

Psychology

335 Morton Hall
Telephone: (256) 824-6191
Email: psychol@uah.edu
Professor Carpenter, Associate Professors Neuschatz, Seemann; Assistant Professors Price, Torres.

The Department of Psychology offers the 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 UAHuntsville, the psychology department is small and very student-centered. Students may take courses in clinical, experimental, social, developmental, cognitive, perceptual, biological, personality, industrial, and counseling psychology. In particular, students are required to gain an appreciation of the methods and tools used by psychologists to perform research. Our capstone course in supervised research allows majors to demonstrate those skills working with individual faculty members.

Mission

The focus of the Department of Psychology is threefold: teaching, scholarship, and service. Consequently, the mission of the department centers upon 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 UAHuntsville.

The Department of Psychology supports the Mission of the College of Liberal Arts 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.

Sociology

344 Morton Hall
Telephone: (256) 824-6190
www.uah.edu/sociology

Associate Professors: Berbrier (Chair), Finley, Sitaraman; Assistant Professors: Jones, Smith.

Sociology is the study of social forces that shape our lives. Sociologists explore social relations within a wide range of institutions, including the family, education, religion, the economy, and politics, as well as within groups, communities, and organizations. The best sociological analyses combine a focus on important details with analyses about how the details relate to “the big picture.” This is why rigorous training in sociology can be usefully applied to careers in business, government, non-profit and charitable organizations, and education: on the one hand our students can become skilled at research and data analysis, and on the other hand they can become proficient at interpreting and critically analyzing how these details relate to the larger issues confronting the organizations in which they are working.
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 UAHuntsville Department of Sociology offers the B.A. with a major in sociology, a minor in sociology, and sociology as a Second Area of Study for Elementary Education Teacher Candidates. In addition to the one-on-one counseling that we offer, the Department has also produced a series of pamphlets designed to inform students about sociology, our program at UAHuntsville, and current course offerings. These include:

Why Study Sociology? A Practical Guide
Career Information for the Sociology Student
Student Advising Guidelines for the Department of Sociology

… and more. They are available free of charge from our office. Please also visit our website for further information on the department: www.uah.edu/sociology

Nursing

210 Nursing Building
Telephone: (256) 824-6345
Email: nursing@uah.edu

Dean:
C. Fay Raines, B.S.N., M.S.N., Ph.D., Professor

Associate Dean:
Pamela O’Neal, B.S., B.S.N., M.S.N., Ph.D., Associate Professor

Professor: Raines

Associate Professor: Anderson, Frith, Hays, Newman, O’Neal, Talley

Clinical Associate Professor: Browning, Herrin-Griffith, McClellan, Showalter

Assistant Professor: Foote, Hoy

Clinical Assistant Professor: Adams, Alexander, Baginski, Beck, Bianchi, Bonilla, Byrum, Ferguson, Foote, Herrin, Hobson, Lioce, O’Keefe, Peveler, Primeau, Warboys

Clinical Instructor: Bacon, Barnby, Benjamin, Benton, Bocter, Clemmons, Davis, Gilliam, Pabst, Ratliff, Reynolds, Statham, Thompson

Mission

The fundamental purpose of the College of Nursing is to prepare clinically excellent baccalaureate and graduate level nurses to deliver health care services to a culturally diverse population within a variety of health care settings. Our
graduates practice as professionals, able to utilize critical thinking skills for therapeutic interventions, disease prevention and health promotion. The graduate, undergraduate and continuing education programs provide opportunities for participation in collegial, interdisciplinary learning activities that promote intellectual development and life-long learning. In support of the mission of the University, the College of Nursing, through its graduates, faculty activities, and programs, contributes to the health and well-being of the community.

Overview

The College of Nursing offers the Bachelor of Science in Nursing, the Master of Science in Nursing, the Doctor of Nursing Practice, a Post-Master’s Family Nurse Practitioner Certificate, and a Graduate Certificate in Nursing Education. The College of Nursing is dedicated to excellence in teaching, practice, scholarship, and service. Faculty have the responsibility to educate students of nursing as well as to provide continuing education, to engage in scholarly activities that will develop and extend the discipline of nursing, and to provide service to the nursing profession, the community, and the academic environment in which nursing study resides.

Philosophy

The College of Nursing Faculty believes that nursing is both an art and a science. We believe nursing focuses on holistic health and wellness among individuals, families, and communities in the context of cultural, environmental, and spiritual diversity. The College promotes nursing knowledge through teaching, research, and service. The diversity and complexity of changing health care systems requires critical thinking and life-long learning.

Nursing Education occurs within a broad theoretical and research based curriculum to address health care issues for individuals or groups with emphasis on delivery systems or health promotion and disease prevention. Implicit in this is an understanding and appreciation of human diversity in health and wellness.

The faculty serve as facilitators and models of competence in nursing practice. We are dedicated to advancing the art and science of nursing. We participate in teaching, research, and service to our students and community. We maintain the advancement of new knowledge through research.

Undergraduate Program Objectives

1. Practice nursing at the entry level based on ethical, legal, and professional standards.
2. Utilize the nursing process for promoting, maintaining and restoring health with diverse populations in a variety of settings.
3. Apply knowledge and use critical thinking as a generalist in professional practice.
4. Demonstrate leadership, accountability and flexibility in collaboration with multidisciplinary health care systems.
5. Engage in life-long learning and participate in activities that enhance the discipline of nursing.

Accreditation

The Bachelor of Science in Nursing (BSN) and the Master of Science in Nursing (MSN) programs offered by the College of Nursing are accredited by the Commission on Collegiate Nursing Education (CCNE). The undergraduate program is also approved by the Alabama Board of Nursing.

Degrees and Certificates Offered
The College of Nursing offers bachelor’s, master’s, and doctor of nursing practice degree programs, as well as a Post-Master’s Family Nurse Practitioner Certificate Program, and a Graduate Certificate in Nursing Education. The bachelor’s program includes a track for students who are completing their initial nursing education as well as a track for students currently licensed as registered nurses.

**Graduate Degrees and Study**

The Master of Science in Nursing degree is awarded upon successful completion of one of five tracks at the master’s level. Students have the opportunity to become family nurse practitioners, acute care nurse practitioners, adult clinical nurse specialists, clinical nurse leaders or leaders in a variety of health care systems. The curriculum for all tracks builds on core content in theory and research. Additional courses such as health policy, case management, health care informatics, advanced health assessment, pathophysiology, and pharmacology are used to strengthen knowledge and practice skills in the appropriate area of study. Practice sites for clinical courses are individually arranged with the student.

Students who successfully complete their program of study are eligible to sit for the national certification examination in their area of expertise.

The University of Alabama in Huntsville (UAHuntsville) College of Nursing offers a joint doctor of nursing practice (DNP) program with the University of Alabama and the University of Alabama at Birmingham.

The DNP degree is an advanced practice degree, preparing nurses at the highest levels of specialty practice. It will help meet the challenges facing the nation due to advancing technology, a diverse and aging population, growing numbers of the chronically ill, and an increasingly complex health care system. It is designed to prepare nurses to face the ever-changing future of health care and the needs of the population.

More detailed information about opportunities for students seeking graduate degrees and certification may be obtained from the College of Nursing Office of Graduate Programs (256) 824-6669.

**Distance Learning**

The mission of the College is to provide excellence in teaching, research and service while providing unique opportunities and creative, flexible programs for students, faculty and the community. Distance learning and the use of other new educational technologies are part of the future in the continuing mission.

The College of Nursing offers the RN to BSN program online via the web. This allows students at distant geographical sites to actively participate in class and clinical learning activities.

**Computer Literacy**

The College of Nursing acknowledges that health care delivery systems are evolving at an accelerated rate and becoming increasingly reliant on computer technology. Computer literacy is rapidly becoming a basic communication skill. Prior to enrolling in nursing courses, it is suggested that students familiarize themselves with basic computer skills. Students must be able to use a computer to log on to their email account to communicate with other students and faculty. They must be able to log on to the Internet and Angel to access class content, class announcements, class/clinical schedule changes, and perform Internet searches for health care related materials.

**Facilities**
The College of Nursing utilizes the facilities and resources of the entire university, the community, and health care agencies. The college is housed in a four-story building centrally located on the UAHuntsville campus. Classrooms equipped with current educational technology as well as the Learning Resource Center, which is located in Wilson Hall, assist students to learn in multiple ways.

The College of Nursing maintains contracts with over 600 health related agencies to offer a wide range of clinical sites for student educational experiences. Two hospitals, Crestwood Medical Center and Huntsville Hospital, with a combined capacity of more than 1,000 beds are located in Huntsville. In addition, the local area includes a Department of Health, skilled nursing homes, home health agencies, and the University of Alabama at Birmingham Medical Clinics-Huntsville Campus which also partner with the College to provide clinical sites. Other hospitals, clinics, physicians’ offices, and rural health clinics across Alabama and southern Tennessee are also used for student experiences.

Transportation

Clinical learning experiences are varied in settings and are located within Huntsville and surrounding communities. Students are expected to travel to and from all clinical experiences. Students are responsible for providing their own transportation and carrying appropriate insurance. The College of Nursing is not liable for any traffic violations or auto mishaps during student commutes.

Service and Scholarship

In addition to its teaching mission of providing quality education for students, the College of Nursing provides continuing education for nurses. Educational programs may be offered at the College of Nursing or at individual health care agencies. The faculty and students of the college are committed to the provision of services for the people of Huntsville and surrounding communities. These activities are focused on the improvement of health and healthy behaviors and include such activities as health fairs and screenings.

Faculty and students also conduct and disseminate research to address issues in health care from health policy initiatives and the delivery of services to specific clinical problems. Faculty are also active in the provision of consultative services to a variety of health care agencies and educational institutions.

Advising and Assistance

The focus of advising in the College of Nursing is to assist students to successfully progress toward their educational objectives. The baccalaureate degree program is divided into two components: the lower division and the upper division. All pre-admission and lower division students are advised in the College of Nursing Office of Undergraduate Programs, located on the second floor of the Nursing Building. All students, including registered nurse students, planning to apply for transfer admission from other institutions are also encouraged to meet regularly with a nursing advisor. Advisors in the Nursing 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 they maintain advising records for each student. Advisors also refer students to other campus resources when needed.

Faculty advisors assist students in completing a plan of study for their upper division work and provide guidance for future employment or educational endeavors. Faculty advisors work closely with students to promote success in the nursing program.

All students sign and complete a program of study (POS), which is an official indication of planned course sequence. Students wishing to change their program of study must consult the Associate Dean of Undergraduate Programs and sign an updated POS. The student will only be guaranteed seats in the nursing program based on the signed program of
study on file. If a student does not progress sequentially as outlined in the program of study, permission to depart from the sequence must be obtained from the Undergraduate Associate Dean. Departure from the sequence for any reason may significantly lengthen the time for program completion and jeopardize the students’ performance on the NCLEX-RN exam due to currency of information. Students are encouraged to complete the program of study within two years to be most successful in the program and the career of nursing.

Admission Policies

Admission as a Freshman

Entering UAHuntsville freshmen interested in nursing as a career must meet the general entrance requirements of the university. Each lower division student interested in nursing as a career is advised in the College of Nursing Office of Undergraduate Programs. Students enrolled in the lower division of the college should meet with an advisor in planning a program of study. The program of study will ensure that each student registers for the correct prerequisite courses for the upper division major. Students must meet with a nursing advisor each semester prior to registration. Students must complete all lower division general studies (prerequisites) courses prior to enrolling in the upper division of nursing. For information and assistance, call the College of Nursing Office of Undergraduate Programs (256) 824-6742.

Admission into the upper division nursing major is competitive. A separate application for the upper division of the nursing major must be submitted by published dates, on forms provided by the College of Nursing. Each year’s junior class is selected from all applicants who meet the minimum requirements. Once admitted to the upper division, each student will be assigned a faculty advisor in the College of Nursing.

Admission as a Transfer Student

All transfer students seeking admission to UAHuntsville should read and follow the Admissions Information section of this catalog. Specific UAHuntsville courses that satisfy admission requirements are listed under the Baccalaureate Program of Studies later in this section of the catalog. All transfer students are encouraged to complete courses equivalent to those listed in that summary. Students transferring from Alabama two-year colleges should follow the general studies curriculum approved by the Articulation and General Studies Committee (AGSC). A copy of this curriculum is available in the UAHuntsville Office of Admissions. Articulation requirements, as they relate to the nursing major, are provided below:

Area I. Written Composition (6 semester hours).

Area II. Humanities and Fine Arts (12 semester hours).

Requirements include a minimum of 3 semester hours in literature, 3 semester hours in the arts, and the remaining 6 semester hours from either the humanities or arts. Disciplines in the humanities include, but are not limited to, philosophy, religious studies, speech, foreign languages, art, music, theater, and dance. As part of the general studies curriculum, students must complete a 6 semester hour sequence in either literature or history.

Area III. Natural Sciences and Mathematics (11 semester hours).

Requirements include a minimum of 3 semester hours in mathematics; finite, precalculus, or higher. Students transferring to the nursing major must complete a course in inorganic chemistry (including lab) and an additional science course with a lab in either biology, chemistry or physics.

Area IV. History, Social, and Behavioral Sciences (12 semester hours).
Requirements include a minimum of 3 semester hours in history, 3 semester hours in psychology and the remaining 6 semester hours from among other disciplines in the social and behavioral sciences. Disciplines include, but are not limited to, anthropology, economics, geography, political science, psychology, and sociology. As part of the general studies curriculum, students must complete a 6 semester hour sequence in either history or literature.

**Area V. Pre-Professional, Major and Elective Courses (19-23 semester hours).**

Students entering the nursing major must complete 6-8 semester hours in human anatomy and physiology (with lab) and 3-4 semester hours in microbiology (with lab). Students entering the nursing major at UAHuntsville must also complete a minimum of 3 semester hours in statistics, 3 semester hours in human growth and development and elective hours to meet the 19 hour minimum in Area V.

The specific credit for work completed at other institutions and applied to the courses for admission to the College of Nursing is determined by the College of Nursing Office of Undergraduate Programs. Courses taken at community or junior colleges may satisfy lower division prerequisite course requirements; courses taken at other four year institutions may meet prerequisite and upper division course requirements.

**Admission to the Upper Division**

The upper division includes the clinical component of the nursing curriculum. Students must apply and be admitted to the nursing program to be eligible to enroll in upper division or level 300 and 400 courses. In order to be considered for admission to the upper division nursing major, students enrolled at UAHuntsville must complete a separate nursing application, which is available through the College of Nursing Office of Undergraduate Programs or online. Transfer students must first apply to UAHuntsville through the Office of Admissions and then complete the separate nursing application available through the College of Nursing Office of Undergraduate Programs. Admission to the upper division is highly competitive and spaces are limited. When the number of students applying to the upper division exceeds the number of spaces available, the most qualified applicants will be admitted. Those applicants who present the strongest academic records and who show the most promise for success in the upper division will be admitted. UAHuntsville students who have completed 30 or more hours at UAHuntsville will be given priority consideration for admission over transfer students.

**Admission of Non-Licensed (Basic) Students**

1. Applicants for admission to the upper division for non-registered nurses are competitive. Each year’s junior class is selected from applicants who meet the minimum requirements:
   a. Minimum grade of “C” on all required general studies prerequisite coursework as listed under Baccalaureate Program of Studies.
   b. Completion of all lower division general studies (prerequisite) course requirements with a minimum of 59 hours of credit.
   c. Status of good academic standing.
   d. In addition to meeting other admission requirements, students seeking transfer from the upper division of another nursing education program must submit a letter of good standing indicating that the student is in good standing and 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.

2. Students who have earned 30 semester hours of coursework at UAHuntsville by the application deadline for the term for which they are applying, and whose cumulative prerequisite GPA is 3.0 or higher qualify for priority admission consideration. An application for the upper division nursing major must be completed and submitted to the College of Nursing Office of Undergraduate Programs by March 1 for fall admission and by September 1 for spring admission. Applications are available from the College of Nursing Office of
Undergraduate Programs and online. Students are admitted twice a year for fall and spring semesters. Students who wish to be considered for scholarships should apply prior to December 1.

3. Information considered for admission to the Nursing Program includes, but is not limited to, the following: strength in science and math courses, number of course repeats, and academic performance in prerequisite courses. The best qualified candidate will be chosen.

4. Other admission requirements may be instituted in the future. Refer to admission application for details of admission criteria.

Admission of Registered Nurse Students

1. Admission to the upper division nursing major for registered nurse students is selective. Each year’s class is selected from students who meet minimum requirements:
   a. Minimum grade of “C” on all required prerequisite coursework.
   b. Completion of all lower division general studies (prerequisite) course requirements as listed under Baccalaureate Program of Studies, with a minimum of 59 hours of credit.
   c. Graduation from an associate degree nursing program or a diploma program in nursing.
   d. Status of good academic standing.

2. An application to the upper division nursing major for registered nurse students must be completed and submitted to the College of Nursing Office of Undergraduate Programs by April 15. Applications received after the deadline will be considered on a space available basis. Students who wish to be considered for scholarships should apply prior to December 1.

3. Registered nurse students must be licensed or eligible for licensure at the time of application. Licensure must be obtained prior to beginning the program. If a student is permitted to meet course clinical requirements in a state other than Alabama, the student must be licensed in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. Licensure must be maintained throughout the program.

Requirements for Enrollment for Admitted Students

1. Evidence of CPR (Basic Life Support for the Healthcare Provider through the American Heart Association) certification and recertification must be received by the College of Nursing Office of Undergraduate Programs by published deadlines for progression in the program.

2. Professional Liability requirements:
   a. All unlicensed students must pay for required professional liability insurance by published deadlines. Unlicensed students are included in a policy available through the College of Nursing and students will receive information about the amount and method of payment in early summer. Liability insurance must remain current until graduation.
   b. All registered nurse students must individually obtain and present evidence of current professional liability insurance. The insurance must remain current until graduation.

3. Students are required to undergo drug testing and criminal background check prior to enrollment in nursing courses and for cause at other points. Information and procedures are provided upon admission and prior to each academic year. If the College deems the drug testing and or background check information to be unsatisfactory, acceptance or enrollment into the College may be denied or an offer of acceptance rescinded. If a student’s acceptance or enrollment is denied or rescinded based on the information obtained from a criminal background check report, the student will be advised of the name and address of the consumer reporting agency that furnished the report, and of the right to dispute the accuracy and completeness of any information contained in the report by contacting the consumer reporting agency directly. If the College decides, based upon the individual’s written description, explanation and documentation about information obtained in the criminal background check, that the results of the check are deemed to be satisfactory, the individual shall be informed that the College’s positive decision is not a guarantee that every clinical facility
will permit the student to participate in educational clinical experiences at that facility or that any state will accept the individual as a candidate for registration, permit or licensure.

Convictions of pleas of guilty of, pleas of nolo contendere (no contest) to, any criminal charges, or any pending criminal charges are grounds for dismissal from the College of Nursing. Any crimes involving violence against the person including but not limited to: murder, manslaughter, use of deadly force, assault and battery (other than simple), sex crimes, abuse of children or the elderly, abduction, or robbery at any time prohibit a student from admission or progression in the Nursing Program. The Associate Dean will inform any disqualified student, and the student will not be allowed to continue in any Nursing Program.

4. Registered nurse students must submit proof of an unencumbered current license. If a student is permitted to meet course clinical requirements in a state other than Alabama, the student must be licensed in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. An unencumbered license must be maintained throughout the program.

5. Recent graduates of associate degree or diploma nursing programs who are not yet licensed will be permitted to complete lower division coursework, but will not be admitted to the upper division clinical component of the program until they are licensed.

6. Essential functions 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:
   a. Critical thinking ability sufficient for clinical judgment. Examples (not all inclusive) of necessary activities include identifying cause-effect relationships in clinical and classroom situations; and developing nursing care plans.
   b. Interpersonal abilities sufficient to interact with individuals, families, and groups from various social, emotional, cultural and intellectual backgrounds. Examples (not all inclusive) include the ability to establish rapport with patients/clients and colleagues.
   c. Communication abilities sufficient for verbal and written interaction with others. Examples (not all inclusive) include explaining treatment procedures, initiating health teaching, and documenting and interpreting nursing actions and patient/client responses.
   d. Mobility abilities sufficient to move from room to room and maneuver in small spaces. Examples (not all inclusive) include moving around in clients’ rooms, work spaces and treatment areas; and administering cardiopulmonary procedures.
   e. Gross and fine motor abilities 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 positioning clients.
   f. Auditory ability sufficient to monitor and assess health needs. Examples (not all inclusive) include hearing basic conversation; monitoring alarms, emergency signals and auscultatory sounds; and hearing cries for help.
   g. Visual abilities sufficient for observation and assessment necessary in nursing care. Examples (not all inclusive) include reading documents such as patient charts and laboratory reports; reading calibrations on syringes, sphygmomonometers, and thermometers, and equipment outputs such as waves, printouts, and digital readings; and accurately observing client behaviors such as color changes and nonverbal communication.
   h. Tactile abilities sufficient for physical assessment. Examples (not all inclusive) include performing palpation, percussion, temperature changes, complete physical examinations and other activities related to therapeutic interventions.
   i. Behavioral/Social abilities sufficient to demonstrate emotional stability, maintenance or composure under stress, development of mature, empathetic and effective nurse-patient relationships and use of sound and unimpaired judgment in classroom and clinical activities.

These essential functions 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 essential functions are revised and adopted from the Americans with Disabilities Act: Implications for Nursing Education (reapproved 2004) by the Southern Regional Education Board and the Council on Collegiate Education.
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 practice of registered and nursing 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) Failure to produce evidence of good moral character such as having a criminal history or pattern of illegal conduct or disregard for the law; (3) Any other reasons authorized by law.

Failure to comply with any of the Alabama Board of Nursing rules 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 review of candidates for eligibility for initial and continuing licensure.

Health Requirements

The clinical experiences of nursing students require a health-screening program. The following steps are required as part of admission and enrollment in the upper division nursing major:

1. Each student is required to have a health examination by a physician or a certified nurse practitioner. Reports of the results of this examination must be submitted on forms provided by the College of Nursing and must be received by the College of Nursing Office of Undergraduate Programs by published deadlines. Individual clinical agencies may require additional documentation for specific health requirements which must be met by the students.

2. Each student must be immunized for Hepatitis B. For initial enrollment, certification that the series of injections has begun or results of a recent titer must be received by the College of Nursing Office of Undergraduate Programs by published deadlines. Documentation of the completed series is required for continued enrollment and must be received by the College by published deadlines. Immunizations and titers are at the expense of the student.

3. Each student is required to be immunized against measles, mumps, rubella, rubeola, and varicella. Documentation of current immunization, physician’s or nurse practitioner’s statement copy of recent titer results must be received by the College of Nursing Office of Undergraduate Programs by published deadlines. Immunizations and titers are at the expense of the student.

4. Each student is required to have a 2-step PPD (Tuberculosis/TB) skin test less than one year old by published deadlines. If a PPD test is positive, a chest X-ray is required. Evidence of annual testing or results of a recent chest x-ray are required. Testing expenses are the responsibility of the student. Documentation of the test results must be received by the College of Nursing Office of Undergraduate Programs by published deadlines.

5. Documentation of current health insurance must be received by the College of Nursing Office of Undergraduate Programs by the published deadlines. Hospitals and health agencies provide emergency treatment to students for injury or illness occurring in the course of program requirements in their agencies. Such treatment will be at the expense of the student. Students are required to maintain health insurance throughout the program.

6. Other health requirements may be implemented based on community or clinical agency requirements.

Financial Aid
The University Financial Aid Office, located in the University Center, provides financial aid information and assists students in meeting individual needs.

**Upper Division Progression and Graduation Requirements**

All students must meet UAHuntsville requirements for progression and graduation. In addition, there are the following requirements for the College of Nursing:

1. An overall “C” (2.0) average on all courses taken at UAHuntsville is required for graduation.
2. A grade of “C” or above must be earned in all required nursing courses. A student who receives a grade below “C” in a required nursing course may repeat the course only once. The following are required nursing courses for nonlicensed students: NUR 302, 303, 304, 305, 307, 308, 310, 321, 401, 402, 403, 404, 405, 406, 407, 408. Required courses for registered nurse students are: NUR 339, 410, 411, 412, 413, 414, 419, and 420. 32 hours of validated credit is applied after successful completion of NUR 410. These hours are applied towards the upper division curriculum for a total completion of 69 hours.
3. Any student who withdraws from or does not successfully complete a course for academic or nonacademic reasons as prescribed on the program of study, must contact the Associate Dean of Undergraduate Programs to develop a revised program of study based on space-availability and progression constraints. Before considering placement of any students who have not succeeded in the 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.
4. A student who receives two grades below “C” in required nursing courses, in either the same course or in separate courses, at any time during the program will not be permitted to continue in the College of Nursing. This requirement also applies to non-admitted students who are enrolled in non-clinical courses with NUR prefixes prior to admission to the upper division nursing major. Students who wish to continue their nursing education may petition for readmission to the College of Nursing. Readmission request letters are written to the College of Nursing, Director of Undergraduate Programs. A committee will review the petition and evaluate an identified plan for success written by the student, reasons for past academic failure, and overall academic performance. Each student is individually reviewed for potential readmission. Students who are readmitted and subsequently earn another grade below “C” in any nursing course will be permanently dismissed from the program.
5. 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.
6. Non-licensed 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. Students are required to earn a passing score on the examination in NUR 408 Professional Practice in Nursing III Seminar to successfully complete this course. Failure to satisfactorily complete the standardized examination in this course may delay the student’s completion and graduation from the program.
7. 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 UAHuntsville Student Handbook.
8. Throughout the program, students must meet health and other requirements as identified in the Enrollment Requirements section above, as well as requirements specified in clinical agency contracts.
9. Registered nurse students must maintain an active and unencumbered license throughout the program. Clinical experiences in states other than Alabama require an active license in that state. Registered nurse students will not be allowed to continue in the program if any nursing license is placed on probation, suspended, or revoked. Students must notify the College of Nursing if there is a change in license status.
10. Any requests for exceptions to progression and graduation requirements must be addressed in writing to the Associate Dean for Undergraduate Programs.
Responsibility to 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 this requirement may lead to exclusion from required clinical educational experiences and prevent completion of the program.

Science

C207 and 206 Materials Science Building
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Dean:
John D. Fix, B.S., M.A., Ph.D., Professor of Physics

Associate Dean:
Daniel M. Rochowiak, B.S., Ph.D., Associate Professor of Computer Science

Mission

The College of Science at UAHuntsville is dedicated to providing high-quality undergraduate and graduate education in science and mathematics, maintaining an environment that promotes internationally recognized faculty research programs, and providing service to the university, state, and regional communities as a source of scientific and mathematical expertise.

Accreditation

The B.S. degree program in Computer Science offered in the College of Science has been fully accredited by the Computing Accreditation Commission of ABET since 1989. In addition, the chemistry department offers American Chemical Society approved curricula in chemistry and biochemistry.

Facilities/Services

The College of Science consists of six academic departments: Atmospheric Science, Biological Sciences, Chemistry, Computer Science, Mathematical Sciences, and Physics. Programs are administered by these six departments and the Office of the Dean. In addition, faculty in the college are associated with the campus research centers including the Center for Applied Optics, Center for Automation and Robotics, Earth System Science Center, Global Hydrology and Climate Center, Information Technology and Systems Center, Center for Microgravity and Materials Research, Center for Space Plasma and Aeronomic Research, Laboratory for Materials and Surface Science, Laboratory for Structural Biology, the Consortium for Materials Development in Space and the National Space Science and Technology Center. The College of Science in conjunction with the Department of Mathematical Sciences oversees the Math Learning Center, located in the Salmon Library.

Degrees and Programs
The College of Science offers a broad spectrum of programs and intellectual experiences designed to meet various educational, vocational and professional goals. Students may plan programs of study leading to career opportunities in computational, mathematical, biological, and physical sciences or as background requirements for professional studies in medical fields, engineering and education. The College also offers a variety of courses which provide basic science support to other disciplines. Students receive assistance from the faculty in preparing and planning for advanced studies and in planning and carrying out research projects to enhance their course work. There are abundant opportunities for undergraduate students to engage in original scientific research, often resulting in a scientific publication or presentation at a scientific meeting. By encouraging intellectual, as well as technical development, the faculty seeks to introduce students to scientific inquiry as an orderly thought process.

The College of Science awards the Bachelor of Science and the Bachelor of Arts Degrees. Majors are offered in biological sciences, chemistry, computer science, mathematical sciences, and physics. Secondary education teacher preparation programs are available in biology, chemistry, mathematics, physics and general science. A certificate program in environmental science is available to undergraduates majoring in science or mathematics and to individuals already holding degrees in a science discipline. Students may also combine a minor in atmospheric science with any of our majors.

Degree programs

<table>
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<tr>
<th>Program</th>
<th>Degree(s)</th>
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<tbody>
<tr>
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<tr>
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<tr>
<td>Mathematics</td>
<td>B.S., B.A.</td>
</tr>
<tr>
<td>Physics</td>
<td>B.S.</td>
</tr>
</tbody>
</table>

Graduate Degrees and Study

The College of Science offers graduate programs leading to the Master of Science degree in atmospheric science, biological sciences, chemistry, computer science, materials science, mathematics, and physics, to the Master of Science in Software Engineering, and to the Master of Arts degree in mathematics. Doctoral programs are offered in applied mathematics, atmospheric science, computer science, and physics. Graduate certificate programs are offered in environmental science, software engineering, and information assurance. Interdisciplinary programs, offered through the Colleges of Science and Engineering, provide the opportunity to earn a Doctor of Philosophy degree in Biotechnology Science and Engineering, Optical Science and Engineering, or Materials Science. For graduate course offerings and programs, please refer to the Graduate Catalog.

College of Science Academic Advisor

Morgan Lewis, B.S., MS
C206 Materials Science Building
256-824-2505
e-mail: lewism@uah.edu
The College of Science full-time advisor assists undergraduates in course selection and scheduling until such time that the student selects and declares their major, typically during the sophomore year. At that time the college advisor and student begin preparation of a program of study. The student is then assigned to a faculty advisor by his or her major department who will continue to assist him or her in development of a program of study and in monitoring progress to graduation. The college advisor also assists students in understanding the general education requirements, graduation requirements and assists them in locating appropriate academic assistance as needed.

**Academic Regulations and Policies**

**Health and Physical Education Courses**

Students who major in the College may count a maximum of four semester hours of health and physical education activity courses toward their requirements for graduation. HPE courses at the 200 level or greater are “professional courses” and are not counted toward the maximum number of credit hours for activity courses.

**Requirements for Programs of Study Leading to the B.S. Degree**

Candidates for a B.S. degree must satisfy the General Education Requirements set forth below, complete the requirements for a major in a program offered by one of the departments in the College of Science, and complete the requirements for either a minor or cognate studies (see disciplines for specific requirements). Students are required to have a C average overall, a C average in their major, and a C average in their minor or cognate studies for UAHuntsville courses. The major and minor or cognate averages will be calculated based on at least the courses listed in the Program of Study. Additional courses completed in the discipline may, but need not, be included in calculating these averages. Only courses which the student completes with a grade of D or better will count as satisfying degree requirements. A grade of C or better must be earned in some courses that are prerequisites for other courses in the discipline before continuing in the course sequence. Specific departmental requirements are listed in the course descriptions. Students are strongly encouraged to meet with the College of Science advisor to formulate a Program of Study as early as possible in their academic career.

**Science Major with Minor in Business Administration**

Due to the increased need by the corporate world for employees who are not only scientists or mathematicians, but who have the background and training to move into managerial positions, students majoring in the College of Science may choose a minor in business administration. Specific examples are given for some of the majors in the departmental sections that follow.

**Atmospheric Science**

National Space Science and Technology Center, Room 4044
Telephone: (256) 961-7877
Email: atmos@uah.edu
Web Site: http://www.nsstc.uah.edu/atmos

**Faculty**
Professors: S. Christopher (Chair), J. Christy, K. Knupp, M. Newchurch, D. Perkey, T. Sever, R. Welch; Research Professor W. Vaughan; Associate Professors: Q. Han, J. Mecikalski.

Mission Statement

The Atmospheric Science Department (ATS) at UAHuntsville is devoted to providing high-quality education to graduate and undergraduate students and to contributing international-caliber research principally in the areas of remote sensing, atmospheric chemistry and air pollution, radiative transfer, microwave radiometry, severe storms, numerical modeling, and climate-change modeling and measurements.

Policies

The Atmospheric Science Department does not offer an undergraduate major. However, the atmospheric science minor, in conjunction with a physics, mathematics, computer science, or chemistry major, offers an excellent preparatory undergraduate program leading to the M.S. or Ph.D. professional degree in atmospheric science.

The minor in atmospheric science particularly serves as a complement to the physics major. Many university graduate programs in atmospheric science, including the UAHuntsville program, heavily recruit undergraduate physics majors into their programs. These students have the requisite background courses in mathematics and physics to excel in graduate atmospheric science courses of study.

Students selecting one of the several options available under the atmospheric science minor program can qualify for the “meteorologist” category when applying for GS rated jobs in various government agencies. Thus, the program offers the opportunity for its graduates to meet these well-defined criteria when seeking employment.

Atmospheric Science Track in Physics

The Physics Department offers an atmospheric science track that requires ATS 401, 441, 451 and 461. See the Physics Department section for a full description.

Biological Sciences

369A Shelby Center
Telephone: (256) 824-6260
Email: biology@uah.edu
Web Site: http://www.uah.edu/biology/

Professors Lawton, Moriarity (Interim Chair), Shriver; Professors Emeriti Campbell, Eley, Garstka, Modlin; Associate Professors Boyd, Leahy, Magnuson, Ng; Assistant Professors Cruz Vera; Research Assistant Professor Cseke; Visiting Assistant Professors Kitazono, MacGregor, Balasubramanian; Lecturer Stallsmith.

Mission

The UAHuntsville Department of Biological Sciences aspires to provide one of the best programs in the Southeastern U.S. contributing to meeting these challenges through undergraduate and graduate education and research. Best is understood in terms of both quality and efficiency. At the undergraduate level, we want the majority of UAHuntsville undergraduates to have at least one course in the biological sciences to provide some perspective on scientific issues confronting our society. For biological science majors, we want to ensure forward-looking, comprehensive curricula
that meet the highest national standards. This must include instruction and laboratory experience in each of the principal areas within biological sciences, and supporting course work in mathematics, chemistry, communications and bioethics. In addition, we want to provide our undergraduate majors with support and research experience necessary to build careers in business and in graduate and professional schools. At the graduate level, the objective of the Department of Biological Sciences is to educate and train students in the critical, problem solving and independent thinking skills required in scientific research. Through our M.S programs and the interdisciplinary Biotechnology Ph.D degree and at the Postdoctoral level we aspire to provide thorough training and mentoring to cultivate future scientists, who are trained to serve national needs in education and industry.

Program description

A student may elect a program leading to either a Bachelor of Arts or a Bachelor of Science degree. In most areas of biological interest, a Bachelor of Science degree is deemed more desirable; however, a Bachelor of Arts degree may be preferred in Programs of Study relating biological sciences to the humanities, social sciences, and economics. In either case, the biological sciences department is committed to high quality undergraduate instruction, with the ultimate goal to produce accomplished graduates who can pursue advanced degrees in the health or life sciences or who can develop meaningful careers in the biological sciences.

Biological Sciences Major

The biological sciences program is flexible and broad enough to permit the student to develop courses of study to meet a wide range of interests or career goals within the life sciences. Curricula are available for students who elect to pursue biochemistry, environmental science, exercise physiology, graduate preparatory, microbiology, molecular biology, premedical technology, pre-health professional, or secondary education programs. Examples of programs of study that fulfill the University’s degree requirements and achieve diverse goals in the biological sciences are shown below. Any curriculum may be modified to fit individual aims with the approval of the biology faculty. It is strongly advised that the student electing to major in the biological sciences consult with a biology faculty member early in his/her academic career to formalize a plan of study (POS) to meet academic and career objectives in a timely manner. Normally, a POS should be developed before the junior year of study. It is strongly recommended that one be established before the completion of 85 semester hours of coursework.

A major in biological sciences requires a minimum of 36 semester hours of coursework in BYS and includes the following core courses: BYS 119, 120, 219, 300, and 490. All students majoring in biological sciences will be required to take the ETS Major Field Test in Biology as a component of the BYS 490 course, and the results of the test will be factored into the grade for this course. Additionally, it is expected that the student will take an appropriate structural biology and physiology course within the area of emphasis. A course in biochemistry within the major or a chemistry minor is also strongly recommended.

One course in calculus is required for a B.S. in biological sciences. If the student intends to pursue a course of study requiring more advanced mathematics background, MA171 is recommended to meet this requirement. Otherwise, MA120 may be used to meet this requirement. Biological sciences majors are also encouraged to take a course in statistics.

All BYS majors must have a minor or cognate studies included in their program of study.

Biological Sciences Major with tracks

The following are examples of various curricular constructs that can be established to meet different academic and/or career interests and objectives. Each example is to be used merely as a guideline in creating a Program of Study (POS) to meet a particular goal. Strict adherence to the suggested curriculum is not obligatory to meet degree requirements.
within the major as long as the individual POS has been previously approved by the faculty advisor, departmental chair, and the dean of the College.

B.S. or B.A. degree with a psychology minor (psychobiology program)
B.S. or B.A. degree for secondary education
B.S. degree with emphasis in biochemistry; chemistry minor
B.S. degree, premedical, pre-dental, pre-veterinary; chemistry minor
B.S. degree, microbiology emphasis with chemistry minor, preparatory for graduate study in microbiology
B.S. degree, environmental biology emphasis, preparatory for graduate study in ecology or environmental science; chemistry minor
B.S. degree, composite major in biological-environmental sciences
B.S. degree with emphasis in exercise physiology

Biological Sciences Minor

Courses in Marine Sciences

Select courses in marine sciences, available through the Marine Environmental Sciences Consortium, may be taken for credit at UAHuntsville toward a biological sciences major or minor, a minor in marine sciences, or a Master of Science degree in biological sciences. Biological sciences majors electing a marine sciences minor generally would not take MS courses in the minor that were principally biologically oriented. Courses for which credit is not given for a biological sciences major or minor can be taken as electives. All programs of study that involve marine sciences courses must be approved by the MESCUAHuntsville liaison officer.

Chemistry

203-C Materials Science Building
Telephone: (256) 824-6153
Email: chem@uah.edu
Web Site: http://chemistry.uah.edu/

Professors W. Setzer (Chair), Baird, Scholz, Gregory, Meehan, Radonovich, Shriver; Professor Emeritus Riley; Associate Professors George, Vogler, Waddell, Weimer; Associate Research Professors Chen, Edmondson, Kaukler; Assistant Professors McFeeters; Assistant Research Professor Twigg. Instructor M. Setzer.

Mission

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.

Academic Programs

The academic program in chemistry at the University of Alabama in Huntsville has received the approval of the American Chemical Society in recognition of its strong faculty and excellent facilities for high quality undergraduate instruction. The Chemistry Department offers courses leading to the B.S. degree with a major in chemistry and supports undergraduate programs in other disciplines.
Ten chemistry major curricula are offered that provide preparation for: (1) graduate school in biochemistry or molecular biology, medical school, dental school, or veterinary school; (2) graduate study in chemistry and/or employment as an industrial chemist; (3) preparation for graduate study in forensic chemistry or employment as a forensic scientist; (4) the Alabama Class B High School Teacher’s Certificate for a career in chemical education; (5) graduate work or employment in materials chemistry; (6) graduate study combining chemistry and physics; (7) general education in chemistry suitable for pre-professional students or employment as a biochemist or clinical chemist; (8) pharmacy or pharmacology programs; (9) chemical business; and (10) basic chemistry.

### Computer Science

300 Technology Hall  
Telephone: (256) 824-6088  
Email: info@cs.uah.edu  
Web Site: http://www.cs.uah.edu/

Professors Etzkorn, Graves, Newman, Ranganath (Chair), Slater; Research Professor Petty; Professors Emeriti Davis, Johannes, Shiva; Associate Professors Aygun, Cox, Delugach, Li, Rochowiak; Assistant Professors Weisskopf, Zhang; Zhu.

### Mission

The overriding mission of the Computer Science program is to prepare students to become contributors to the computer science profession, whether they find themselves in industrial, government, research, or university environments. The educational objectives of the Computer Science Department, which are based on the department's commitment to excellence in teaching, research, and service, and overall development of students are consistent with the mission statement of the University.

The Computer Science Department is located in Olin B. King Technology Hall and has excellent classroom, laboratory, and student facilities. Ready access is provided to several modern, networked PC laboratories within the department. The UAHuntsville campus is fully networked with a fiber optic backbone and is a member of the NSF’s Internet2 network, giving high-speed connectivity to the Internet. Additional PC laboratories are also distributed across the campus. The department has microcomputer and network laboratories for instruction in logic design, computer architecture, and networking. Laboratory fees are associated with most computer science classes since extensive laboratory work is required. In order to accommodate student needs, lab scheduling is flexible.

Based on the educational goals of the College of Science and the University, the Computer Science Department has established the following specific student and faculty objectives:

**Student Objectives and Outcomes:** Computer Science graduates

- Will be trained in theoretical concepts and mathematical fundamentals essential for establishing a strong foundation for a life long career in Computer Science.
- Will have good analytical, communication, and problem solving skills needed for professional employment as well as graduate studies.
- Will have a good learning experience during their degree program.
- Will have a good understanding of the fundamentals of the organization, operation, and use of computers.
- Will be proficient in modern programming languages such as C, C++, and Java.
- Will be proficient in Software Engineering methodologies and able to work on group projects.
- Will have strong laboratory experience that provides them practical and effective computing skills.
Program Description

The Computer Science Department offers the B.S., M.S., and Ph.D. in Computer Science as well as the M.S.S.E. in Software Engineering. The department has excellent faculty who are dedicated to teaching, research and student advisement. The program meets national standards for excellence and since 1989 has been fully accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012

Policies

A Mathematics minor is required of all computer science majors.

A transfer student must complete a minimum of 18 hours of CS courses at UAHuntsville in order to obtain a degree in Computer Science.

A minimum GPA of 2.0 must be obtained both in the computer science major and the mathematics minor courses taken at UAHuntsville.

Students may use either CS 391 or 392 as a Computer Science elective, but not both. It is possible to use one as a CS elective and one as the technical elective.

A student must meet all requirements of the College of Science and the University as well as the requirements stated in this section.

Earth System Sciences

4042 NSSTC Building
Telephone: (256) 961-7789
Email: welch@nnstc.uah.edu

Coordinator: R. Welch, Professor and Chair, Department of Atmospheric Science

Faculty: Professors Welch (Coordinator), Christopher, Christy, Eley (Emeritus), Knupp, Lawton, Newchurch, Perkey, Podila, Sever; Research Professor Vaughan; Associate Professors: Han, Leahy; Assistant Professors: Mecikalski; Lecturers: Stallsmith.

Mission: The primary objectives of the ESS program are: 1) to meet important national, regional and statewide needs for highly technically-educated professionals who understand the Earth as a system, and 2) to produce graduates who will be able to perform a variety of functions in research centers and industry centered in our impact on the Earth system. Specifically, that means that students will be trained with 1) the ability to deal quantitatively with real-world problems, 2) the ability to integrate knowledge from multiple disciplines to scientifically address Earth system issues quantitatively, and 3) the ability to work in interdisciplinary teams.

Minor or Cognate Studies

In addition to the course requirements for the major, the ESS degree requires students to choose a minimum of 18 hours in a minor or a cognate studies area. Suggested minors include Physics, Chemistry, Biology, Computer Science, Mathematics, Education or Political Science. Cognate courses must be an educationally compatible combination of courses from more than one department. The ATS Department must approve courses in a cognate studies area. At least six hours must be upper division (300 or above) credit.

To meet these requirements, students should ensure that the 12 credits of course work in atmospheric thermodynamics and dynamics and weather analysis and forecasting.

1. At least 24 semester hours of credit in meteorology/atmospheric science, including a minimum of
   a. 6 semester hours in atmospheric dynamics (ESS 451) and thermodynamics (ESS 441),
   b. 6 semester hours in analysis and prediction of weather systems (synoptic/mesoscale) (ESS 452, 454),
   c. 3 semester hours of physical meteorology (ESS 111, 112, 401), and
   d. 2 semester hours of remote sensing of the atmosphere (ESS 370) and/or instrumentation;
2. 6 semester hours of physics, with at least one course that includes laboratory session (PH 111/114; 112/115; 113/116);
3. 3 semester hours of ordinary differential equations (MA 238);
4. at least 9 semester hours of course work for a physical science major in any combination of three or more of
   the following: physical hydrology (ESS 305), chemistry (ESS 420), physical oceanography, physical
   climatology (ESS 303), radiative transfer (ESS 461), aeronomy, advanced thermodynamics, advanced
   electricity and magnetism, statistics (ST 281), light and optics, and computer science (CS 102).
Or
A combination of education and experience-course work shown above, plus appropriate experience or
additional education.

1. For the purposes of this document, the terms "atmospheric science" and "meteorology" are taken to
   be equivalent.
2. There is a prerequisite or corequisite of calculus for course work in atmospheric dynamics and
   thermodynamics, physics, and differential equations. Calculus courses must be appropriate for a
   physical science major. The preferred sequence of courses is for students to enroll in atmospheric
   thermodynamics and dynamics courses after completing at least two semesters of calculus.
3. This requirement is assigned a range of credit hours (i.e., 0-3 credits) in acknowledgement that
   many cooperative and internship experiences, such as the NWS Student Career or Temporary
   Employment Programs that offer participants work experience directly related to their academic
   field of study, are salaried and consequently at most colleges and universities students cannot earn
   credit hours for these synthesizing and capstone work experiences.
4. There is a prerequisite or corequisite of calculus for course work in atmospheric dynamics and
   thermodynamics, physics, and differential equations. Calculus courses must be appropriate for a
   physical science major.

Mathematical Sciences

258A Shelby Center
Telephone: (256) 824-6470
Email: math@uah.edu
Web Site: http://www.math.uah.edu/

Professors: Friedman, Gibson, Huang, Li (Chair), Morales, Siegrist, Slater; Associate Professors: Ai, Howell, Kunin, Ravindran, Zhang; Associate Research Professor: Dow; Assistant Professors Choup, Park, Wu; Lecturers: Bowman, Lenahan, Marples, Presson.

Mission

The Department of Mathematical Sciences is dedicated to education, research, and service in mathematics.
Our educational mission is to provide excellent instruction and resources for the mathematics education of our students through our courses and degree programs. As the language of science, mathematics is of fundamental importance to the general education of UAHuntsville students, particularly students planning careers in science and engineering. 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 mission in research and scholarship is to discover and disseminate new mathematics and to apply mathematics to problems in engineering and in the physical, biological, and social sciences.

Our service mission is to promote and communicate the importance of mathematics in society and to help maintain standards of excellence in mathematics through refereeing and reviewing. Our service mission is to work with other departments and units in UAHuntsville to achieve the goals of the College of Science and the university as a whole.

We recognize that the components of our mission are not separate but are intimately interrelated. Excellence in teaching, research, and service can only be achieved together.

The mathematical sciences faculty offers courses in mathematics and statistics for a Bachelor of Arts or Bachelor of Science degree in mathematics, a Bachelor of Arts or Bachelor of Science degree in mathematics with an Alabama Class B Teacher’s Certificate, and a minor or second major in mathematics for students majoring in other areas of study. Courses also satisfy individual needs to supplement other areas of study and to satisfy general education requirements (GER).

**Mathematics (MA)**

1. No student may receive more than 6 hours credit for MA courses numbered below 120.
2. AGSC refers to the Alabama General Studies Curriculum (see http://stars.troy.edu/ for more information).
3. Students with deficiencies of high school algebra or high school geometry credit must remove these deficiencies before enrollment in MA courses numbered 100 or above.
4. No student may enroll in his or her first MA course at UAHuntsville before placement determination has been made.

**Physics**

201C Optics Building  
Telephone: (256) 824-2483  
Email: physics@uah.edu  
Web Site: http://physics.uah.edu

Professors Zank (Chair), Fix, J. Franz, Gregory, Lieu, J. Miller; Associate Professors M. Bonamente, I. Roux, R. Miller; Assistant Professors Burko, Duan, Florinski, Heerikhuisen, Li, Sadeghi, Shaikh; Research Professor Zhang; Associate Research Professor Nishikawa, Preece; Lecturers Elsamadicy, Strong

**Mission**

**Train : Discover : Support**

The mission of the Department of Physics 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 undergraduate program prepares physics majors for employment in industrial research or for further graduate studies in physics or related fields, including astrophysics, optics, biophysics, engineering, or medicine. We further play a vital role in the education of other science and engineering students, and promote the understanding and appreciation of physics through our general study courses. Externally funded research is the foundation of our graduate program, which prepares our students for scientific challenges in private industry, government labs, or academia. We also strongly encourage our undergraduate physics majors to participate in departmental research endeavors, even beyond the research required by our “capstone” course. Finally, we promote the advancement of science through publications, public outreach, and other activities within our profession.

Continuing Education

230 Madison Hall  
Telephone: (256) 824-6013  
Email: Karen.Clanton@uah.edu  
Web Site: www.ConEd.uah.edu  
Director: Karen M. Clanton, B.S.B.A., M.S.M., Ed.D.

Mission

The Division of Continuing Education (CE) is committed to meeting the diverse needs of organizations, agencies, and individuals through selected non-credit and credit programs that are timely, relevant, and in accordance with the strategic directions of the University. The Division 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. This objective is carried out through the following programming departments: Professional Development, Health and Physical Education, Educator Programs, and Osher Lifelong Learning Institute.

Accreditation

The University of Alabama in Huntsville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS). The Division of Continuing Education offers non-credit and credit programs under the auspices of that accrediting body.

Facilities/Services

The Division of Continuing Education utilizes the auditoriums, training facilities, classrooms, and other accommodations located on the UAHuntsville campus. In addition, the Division has state-of-the-art computer labs for engineering and information technology training, and fully equipped distance learning production classrooms that allow for instructional taping of high quality distance learning programs. Health and Physical education activities are located in the University Fitness Center, an on-campus facility that contains an indoor pool, gymnasium, weight room, indoor track, and aerobic area. Courses are also held in Spragins Hall, which maintains racquetball and tennis courts. Other continuing education activities are held at various locations throughout the community.

Listener’s License
The Division of Continuing Education coordinates the Listener’s License program, which allows participants to attend regular credit classes, without regard to university admittance status. Listeners are not required to take tests or satisfy attendance requirements and no academic or Continuing Education Units (CEUs) credit is awarded. Participants pay an established course fee, any associated laboratory fees, purchase a campus parking decal, and receive library privileges for the term. Only select courses are available through the Listener’s License program, and courses taken through the Listener’s License program may not be petitioned for credit by examination. Students under disciplinary or academic suspension from any college or university are ineligible to register as Listeners. To determine which courses are available for Listener’s License, phone (256) 824-6372.

**CE Registration Services**

317 Madison Hall  
Telephone: (256) 824-6010 or 800-448-4031  
FAX: (256) 824-6760  
Email: Rita.Campbell@uah.edu  
Rita Roysden Campbell, Director of CE Administration

The Division Continuing Education Registration Office provides registration services for all non-credit and select credit courses offered through the Division. Contact the office to obtain a current course catalog or visit www.ConEd.uah.edu. There is no application process for non-credit courses, and enrollments are taken throughout the year.

**Non-Credit Courses**

Participants may register online, by phone, mail, fax, or in person for non-credit courses. Continuing Education Units (CEUs) are provided for non-credit activities, which comply with SACS Continuing Education Unit: Guidelines, Fifth Edition. One CEU is awarded for each ten-contact hours of participation in an organized continuing education activity. UAHuntsville awards CEUs and a certificate of completion to each person who successfully completes a CEU designated non-credit course. Transcripts are available upon written request from the Continuing Education Registration Office, for a $4 fee per transcript.

**Health and Physical Education Credit Registration**

Students register for Health and Physical Education (HPE) credit courses through Charger Central. Dates, times, procedures and eligibility requirements for registration are available in Charger Central, the Academic Advising offices, and on the UAHuntsville website. Please consult your department of major for specific guidelines on elective courses. NOTE: Part-time students (registered for less than 12 credit hours) taking HPE classes that meet in the University Fitness Center (UFC) will be required to purchase membership to the UFC. Membership rates are based on the total number of credit hours for which you are enrolled. Fees apply for the duration of the course.

**Professional Development**

339 Madison Hall  
Telephone: (256) 824-6372  
Email: Joann.Jones@uah.edu  
Jo Ann N. Jones, Director; Lisa Strickland, Senior Assoc. Director
Mission

The Department of Professional Development develops and presents professional training and educational activities in areas including management, engineering, and information technology. Programs are designed to allow a student the choice of attending individual courses of interest, or completing a more structured certificate program leading to a Certificate of Professional Achievement. Courses are offered in both daytime and evening formats, weeklong formats, and through distance learning to help accommodate the diverse scheduling needs of students. Students are offered an atmosphere conducive for meeting their professional training needs, with state-of-the-art computer labs and classrooms, and instructors who are known and respected industry practitioners and researchers in their respective fields. Programs and examination review seminars include:

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### Information Technology
Distance Learning

Professional Development offers many of its engineering and management certificate programs and seminars in a convenient video-based online format. Distance learning allows participants more flexibility in their training options and provides organizations a cost-effective alternative. In addition to the courses listed above, a partnership with Gatlin Educational Services provides online career training in Healthcare; Business; Construction/Automotive Technology; Networking and CompTIA, Microsoft Certification, Video Game Design and Development; and Internet, Design, and many other programs.

Customized Training

UAHuntsville’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, and can be offered on site, on-campus, or via distance learning. Through targeted learning experiences, the individual or team can bring new tools and competencies back into the organization, providing an immediate on-the-job impact.

Educator Programs

333 Madison Hall
Telephone: (256) 824-6835
Email: Patty.Stevens@uah.edu
Patty Stevens, Associate Director

Mission

The Department of Educator Programs designs, develops, and conducts quality credit and non-credit professional development programs to meet the in-service needs of K-12 administrators, teachers, and staff. Partnerships are developed with local schools, government agencies, and the private sector to design unique programs to meet institutional needs and achieve educational objectives. Specific programs may be conducted in local, national, and international settings. Current programs include a hands-on graduate level course, Exploring the Future: Math and Science for a New Generation, offered in conjunction with the U.S. Space and Rocket Center.
Osher Lifelong Learning Institute

332 Madison Hall
Telephone: (256) 824-6959
Email: Maxine.Doherty@uah.edu
Lisa Strickland, Senior Assoc. Director; Maxine Doherty, Program Manager

Mission

The Osher Lifelong Learning Institute (OLLI) and the Division of Continuing Education partner to provide lifelong learning courses and enrichment activities designed to fulfill the educational needs of the mature, usually retired, residents of the Tennessee Valley. OLLI is a member-governed, member-led, non-profit, volunteer-based organization, that advances the educational, cultural, and social interests of its members (predominantly 50 years or older) by sponsoring non-credit courses, forums, seminars, and other events to promote understanding and appreciation of subjects selected by its members. The Division of Continuing Education supports OLLI’s efforts by providing support services and a safe, comfortable, and intellectually stimulating on-campus environment that supports senior lifelong learning and enhances community outreach.

Curriculum includes a wide range of courses: Arts and Letters, Computers, Crafts, Creative Writing, Finance and Economics, Estate Planning, Exercise, Foreign Languages, Foreign Policies, Government, Great Books, History, Investments, Elder Law, Leisure, Literature, Medical Issues, Music, Nature Studies, Poetry, Politics, Psychology, Science, Space Exploration, and more. Courses are offered during fall, winter, and spring, with most meeting one day a week for six to eight weeks for approximately 1.5 hours each class. OLLI courses are taught by qualified volunteer instructors. Courses are not graded and no tests are administered.

Health and Physical Education

108 Spragins Hall
Telephone: (256) 824-6007
Email: David.Kyle@uah.edu
David L. Kyle, M.A., Associate Director

Mission

The Department of Health and Physical Education supports the mission of the university by providing quality teaching and service through a variety of health, wellness, fitness, and recreational courses and by developing partnerships with organizations that are responsive to the needs of our students and the greater community. The unique and diverse courses are based upon timely, relevant, and basic and applied research that will promote establishing healthy activities for a lifetime. Emphasis is placed upon enhancing and maximizing health, physical performance, lifetime fitness, and disease prevention for students, faculty, and staff, and increasing public awareness of the social implications of current health issues.

Facilities

The Department of Health and Physical Education is housed primarily in two buildings: Spragins Hall and the University Fitness Center. Spragins Hall features a 2,250-seat gymnasium, four racquetball courts, weight room, exercise floor, and athletic training facility. Located adjacent to Spragins Hall is a six court tennis facility. HPE also
utilizes a new Exercise Physiology laboratory within Spragins Hall. This lab allows students to perform the skills required of exercise physiologists along with conducting exercise-based research projects.

The University Fitness Center is a state-of-the-art exercise facility, equipped with several group exercise rooms and a 6,000 sq. ft. weight room containing over 70 pieces of exercise machines and free weight equipment. The Cardiovascular Center offers a choice of over 40 pieces of equipment including treadmills, elliptical machines, steppers, and bikes. The swimming pool is 25 yards in length and has six lanes for lap swimming. Three collegiate-size basketball courts and a suspended 4-lane indoor track are also located under the Fitness Center’s roof. Other facilities include volleyball, sand volleyball, table tennis, and badminton.

**Exercise Physiology Cognate**

The UAHuntsville Departments of Biological Sciences and Health and Physical Education have teamed to offer Exercise Physiology as a cognate area within the Bachelor of Science/Arts Biological Sciences major. The program is flexible and broad enough to permit students to develop courses of study to meet a wide range of interests or career goals within the life sciences.

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Academic Policies and Procedures

- Confidentiality of Student Records
- Academic Responsibility
- Academic Honesty
- Course Placement and Credit by Examination
- Registration
- Academic Achievement
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. Copies of this policy document are available to students in Charger Central, and it should be referred to for a more comprehensive treatment of this subject.

The term “education records” under FERPA includes generally any record, whether in a printed, handwritten, audio, video, or computer media format, maintained by the University and containing information directly related to a student in his/her role as a 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 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” includes any UAHuntsville employee, and a “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” 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 Vice President for Academic Affairs. The student may also file a complaint with the Family Policy Compliance Office, U.S. Department of Education, 600 Independence Avenue SW, Washington, DC 20202-4605.
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 UAHuntsville.

Academic Honesty

Plagiarism and other forms of cheating are subject to penalties as outlined in the Student Handbook.

Course Placement and Credit by Examination

Instructional and Testing Services

Matti Chisgar, Director
226 Business Administration Building
Telephone: (256) 824-6725
Email: testing@uah.edu
Website: www.uah.edu/testing

This office administers the tests used for admissions, credit by examination, and placement to include: the ACT Assessment and Residual ACT, the College Level Examination Program (CLEP), the General Educational Development (GED) Testing Program, the Graduate Record Examination Subject Test (GRE Subject), the Miller Analogies Test (MAT), the internet-based TOEFL (iBT TOEFL) and the UAHuntsville Chemistry, Composition and Mathematics Placement Tests. The UAHuntsville English Language Placement Test (ELPT), used for English as Second Language Placement, is also administered. UAHuntsville does not currently administer the following examinations: Graduate Management Admissions Test (GMAT), Graduate Record Examination General Test (GRE), Law School Admissions Test (LSAT), or Medical College Admissions Test (MCAT.) To determine test locations, dates, fees, etc., candidates should check directly with the respective test company. Links to test company websites are available at www.uah.edu/testing.

Comprehensive information pertaining to the examinations offered through Instructional & Testing Services is available at www.uah.edu/testing.

Course Placement and Placement Testing
All students who are beginning college-level course work in English, Mathematics, Foreign Language 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 100 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 wish to take a higher-level course than the one in which they were placed can take the Mathematics Placement Test. See www.uah.edu/testing for online test registration. This test may be taken twice.

Students who wish to place out of Chemistry 101 and into Chemistry 121 can only do so by taking the UAH Chemistry Placement Test. See www.uah.edu/testing for online test registration. This test may only be taken once.

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, and 5) native language experience. Students should contact the Foreign Language department at (256) 824-6300 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, 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

At UAHuntsville a student may obtain a maximum of one-fourth (normally 32 semester hours) of required degree credits by examination. There are four alternatives by which a student may gain credit through examination at UAHuntsville: 1) departmental examinations, 2) the Advanced Placement (AP) Program, 3) the College Level Examination Program (CLEP), and 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.

1) 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:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Sciences</td>
<td>Contact Department Chair</td>
</tr>
<tr>
<td>Computer Science</td>
<td>All 100 and 200 level courses</td>
</tr>
<tr>
<td>Electrical and Computer Engine</td>
<td>CPE 112, CPE 212</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Contact Department Chair</td>
</tr>
</tbody>
</table>
2) Advanced Placement Program

Several UAHuntsville 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. The subjects in which credit is presently awarded are biological sciences, chemistry, computer science, English composition and literature, American and European history, mathematics, music, physics, political science, and some foreign languages. 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 award of AP credit at UAHuntsville requires a score report from the College Board; transcripts from other institutions with AP scores are not accepted at UAHuntsville.

**AP Credit**

**American History**
Score of 4 = HY221 and 222 (6 hrs.)

**Art History**
No credit awarded.

**Art Studio**
No credit awarded.

**Biology**
Score of 3 = BYS 119 (4 hrs.)
Score of 4 or 5 = BYS 119, 120 (8 hrs.)

**Calculus AB**
Score of 4 or 5 = MA171 (4 hrs.)

**Calculus**
Score of 3 = MA171 (4 hrs.)
Score of possibly MA172 (8 hrs.) with departmental approval and 4 or 5 = MA171

**Chemistry**
Score of 3 or higher = CH 121, 125, 123, 126 (8 hrs.)

**Computer Science A**
Score of 4 or 5 = CPE 112 (3 hrs.)

(A student may receive credit Score of 5 = CPE 112 and CPE 212 (6 hrs.) for either CPE or CS courses, Score of 2 = CS 102 (3 hrs.) but not both)

Score of 5 = CPE 112 and CPE 212 (6 hrs.)

Score of 2 = CS 102 (3 hrs.)
Score of 3 or 4 = CS 102 (see advisor re: CS 121)
Score of 5 = CS 102 and CS 121 (6 hrs.)

English Language/ Composition
*Score of 4 = EH 101 (3 hrs.)
Score of 5 = EH 101 and 102 (6 hrs.)

English Literature/ Composition
*Score of 4 = EH 101 (3 hrs.)
Score of 5 = EH 101 and 102 (6 hrs.)

European History
Score of 4 = HY 102 (3 hrs.)

Foreign Languages:

French, German, Spanish:
Score of 3 = 101, 102, (10 hrs.)
Score of 4 = 101, 102, 200, (13 hrs.)
Score of 5 = 101, 102, 200, 301 (16 hrs.)

Government & Politics (American)
Score of 4 or higher = PSC 101 (3 hrs.)

Government & Politics (Comparative)
Score of 4 or higher = PSC 102 (3 hrs.)

Music Theory
Score of 4 or higher = MU 201 and 203 (4 hrs.)

Music Listening and Literature
Score of 4 or higher = MU 100 (3 hrs.)

Physics B
Score of 4 or higher = PH 101 and 102 (8 hrs.)

Physics C
Score of 4 or higher = PH 101 and 102 (8 hrs.) or PH 111 and PH 114 (4 hrs.)

Psychology
Score of 4 or higher = PY 101 (3 hrs.)

*Students with a score of 4 on either English Language or English Literature are encouraged to consult with the Director of the Honors Program about the possibility of taking EH 105 to satisfy their composition requirements. Students with a score of 4 on BOTH the English Language and the English Literature AP tests will be awarded 6 hours of credit.

3) College Level Examination Program (CLEP)

The College Level Examination Program 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 UAHuntsville. See 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 UAHuntsville courses in which a student may receive CLEP credit, along with specific CLEP test titles and minimum score requirements.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>CLEP Subject Test Title</th>
<th>Minimum Score Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition and Literature</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EH 101</td>
<td>College Composition Modular</td>
<td>50 and superior performance on Freshman College Composition Modular</td>
</tr>
<tr>
<td>*EH 102</td>
<td>Analyzing and Interpreting Literature</td>
<td>50 and superior performance on Analyzing and Interpreting Literature Essay</td>
</tr>
<tr>
<td>*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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH 121, 123, 125, 126</td>
<td>General Chemistry</td>
<td>48 (Recommended student take the Chemistry Placement Test first)</td>
</tr>
<tr>
<td><strong>Foreign Language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FL 101 (French)</td>
<td>College French</td>
<td>48</td>
</tr>
<tr>
<td>FL 101-102 (French)</td>
<td>College French</td>
<td>50</td>
</tr>
<tr>
<td>FL 101(German)</td>
<td>College German</td>
<td>48</td>
</tr>
<tr>
<td>FL 101-102 (German)</td>
<td>College German</td>
<td>50</td>
</tr>
<tr>
<td>FL 101 (Spanish)</td>
<td>College Spanish</td>
<td>48</td>
</tr>
<tr>
<td>FL 101-102 (Spanish)</td>
<td>College Spanish</td>
<td>50</td>
</tr>
<tr>
<td><strong>History and Social Science</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HY 101</td>
<td>Western Civilization I</td>
<td>56 (plus A/B on departmental essay)</td>
</tr>
<tr>
<td>HY 102</td>
<td>Western Civilization II</td>
<td>56 (plus A/B on departmental essay)</td>
</tr>
</tbody>
</table>
HY 221  History of the United States, Part I  60 (plus A/B on departmental essay)

HY 222  History of the United States, Part II  60 (plus A/B on departmental essay)

SOC 100  Introductory Sociology  50

PSC 101  American Government  50 (with essay)

PY 101  Introductory Psychology  60

Business

ACC 211  Financial of Accounting  65

ECN 142  Principles of Macroeconomics  50

ECN 143  Principles of Microeconomics  50

MIS 146  Information Systems & Computer Applications  50

MGT 301  Principles of Management  50

MKT 301  Principles of Marketing  50

4) 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. Reports of IB scores should be sent to the UAHuntsville 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. Credit, if awarded, will be recorded without grades or quality points, and will not, therefore, be included in the calculation of grade point average.

IB Biology  BYS 119, 120, 464

IB Chemistry  CH 101, 105, 201

IB Economics  ECN 142

IB French  FH 101, 102, 201, 202, 301

IB German  GN 101, 102, 201, 202, 301
IB Literature
EH 101; EH 100 and 102 (Minimum test score 6)

IB Spanish
H 101, 102, 201, 202, 301

For further information concerning academic testing, contact the Office of Instructional and Testing Services or see www.uah.edu/testing.

Registration

Dates, times, procedures and eligibility conditions for registration are published in the Schedule of Classes, which is available in Charger Central, the Academic Advising offices, and on the UAHuntsville 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 Student Records 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 June and ends in August. (See Academic Calendar.)

Credit for a course completed is awarded in semester hours (sh). In most instances, the number of semester hours awarded for a course represents the number of hours that course meets each week. Generally a 3-credit hour course meets for three hours each week for one semester. There are exceptions to this general rule, including laboratory and studio courses, study abroad and internships.

Student Course Loads

The typical full-time undergraduate course load is 15-18 credit hours each semester. Students should take between 30 and 33 hours annually in order to graduate in four years. The minimum full-time load for an undergraduate student is 12 semester hours a semester. A part-time undergraduate student is one who is enrolled in less than 12 semester hours. Permission of the student’s dean is necessary to enroll in 21 hours or more, including concurrent enrollment at other institutions and simultaneous correspondence courses. A student enrolling for a minimum load each semester should not expect to graduate in four years unless he or she enrolls in summer terms in addition to the regular academic year.

Prerequisite, Prerequisite with Concurrency, Co-requisite
Some courses offered at UAHuntsville 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 119L; PH 102 and 102L; CPE 112 and 112L; CE 370 and 370L; CHE 442 and 442L; MAE 311 and 311L; NUR 660 and 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.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0-31</td>
</tr>
<tr>
<td>Sophomore</td>
<td>32-63</td>
</tr>
<tr>
<td>Junior</td>
<td>64-95</td>
</tr>
<tr>
<td>Senior</td>
<td>96 up</td>
</tr>
</tbody>
</table>

**Schedule Adjustments**

Through the fifth day of classes, a student may add a course by registering on the web at www.uah.edu, meeting with their advisor, or submitting a Registration/Schedule Adjustment form to Charger Central. Students should consult with their academic advisor and other university officials as indicated on the Registration Form for advice and approval before making any schedule changes.

To add a class after the fifth day of classes requires a written petition to the Office of the Associate Provost for Undergraduate Studies with appropriate documentation to substantiate extenuating circumstances. The petition must include signatures from the instructor, the chair of the department that offers the course, and the dean of the college in which the student is enrolled. A request to change a section after the deadline must be approved by the instructor of the new section, the chair of the department that offers the course, and the dean of the college in which the student is enrolled.

**Credit to Audit**
A student is permitted to change a course from credit to audit through the fourth week of classes. 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 Policy

Through the tenth week of the fall or spring semester, a student may withdraw from any course by executing a withdrawal on our website, meeting with their advisor, or submitting a Registration/Schedule Adjustment form to Charger Central. After the tenth week, a student may withdraw from a course only under extenuating circumstances and with the approval of the dean of the college in which the student is enrolled. Avoidance of an undesirable grade does not justify withdrawal. The request for withdrawal approval in this situation must be submitted with a written explanation of the extenuating circumstances and any appropriate documentation to the dean of the college in which the student is enrolled, and it is the duty of the dean to verify that the circumstances justify withdrawal from a course. In addition, students participating in certain programs must secure approval or give adequate notification to the appropriate officers of these programs. It is the joint duty of these programs and the Office of Student Records to insure that students participating in these programs are aware of any such requirements. 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.

Recording of Withdrawals

If the withdrawal process is completed during the first two weeks of the semester, the withdrawing student’s name does not appear on the final rolls of the class from which the student withdrew, and that course does not appear on the student’s permanent record. If the withdrawal process is completed after the first two weeks, 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.

Retroactive Withdrawal Policy

Undergraduate students may at times experience extraordinary problems during an academic semester. Within two years of having completed such a semester, a student may petition the Vice President for Student Affairs to withdraw retroactively from ALL classes taken during that semester. A retroactive withdrawal is granted only under exceptional circumstances, such as extraordinary medical or personal problems. The petition should include clear and documented evidence whenever possible. The Vice President for Student Affairs forwards the petition to the Provost who approves or denies the request. If the Provost grants a retroactive withdrawal, 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.

Course Repeat Policy
Students should be aware that course repeats, for any reason, may not be looked upon favorably by some employers and by professional schools, and hence they should avoid the need for repeats.

Students may repeat a course in order to achieve a passing grade or an improved understanding. Students may not repeat a course for which they have higher level credit. For example, a student cannot repeat MA 119 after he/she has credit for Calculus. For other courses, the course repeat policy is as follows. For the first five courses repeated, the original grade will not be calculated into the student’s grade point average. Only courses for which the student has received a grade of C, D, or F may be repeated for this purpose. Each course repeat counts against the maximum of five that can replace the previous grade. For instance, a student may use all five repeats in a single course or in five 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 credit hours earned in the repeated courses count toward graduation and are averaged into the student’s GPA. After five course repeats, all other courses repeated at UAHuntsville will result in both the original grade and the course repeat grade being calculated into the student’s GPA. This course repeat policy will automatically be applied unless the student files for an exemption in Charger Central (UC 118) upon registration.

**Academic Bankruptcy Policy**

An undergraduate student may petition the Admissions and Scholastic Affairs Committee to declare academic bankruptcy. The Scholastic Affairs Committee, after reviewing the petition and consulting with the Office of Admissions, will decide whether to grant the student academic bankruptcy. Under this policy, all college-level work completed at UAHuntsville prior to a date specified by the student is eliminated from computation of grade point averages and will not be applied toward a degree at UAHuntsville. Such work will not be expunged from the student’s scholastic records and transcripts, although it will be designated as work not included in the computation of grade point averages or applied toward degree requirements. There must be a minimum of two calendar years between the date of petition and the date specified by the student in the bankruptcy petition. Academic bankruptcy will only be granted once during a student’s academic career at UAHuntsville.

**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, N, and NC. 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.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior achievement. Four quality points given per semester hour.</td>
</tr>
<tr>
<td>AU</td>
<td>Audit. Course attendance as a listener. No credit given, no quality points assigned, no attendance requirement.</td>
</tr>
<tr>
<td>B</td>
<td>Above average achievement. Three quality points given per semester hour.</td>
</tr>
<tr>
<td>C</td>
<td>Average achievement. Two quality points given per semester hour.</td>
</tr>
<tr>
<td>D</td>
<td>Passing work. One quality point given per semester hour.</td>
</tr>
<tr>
<td>F</td>
<td>Failing work. No credit given; no quality points assigned.</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete. Assigned by the instructor when a student, due to circumstances beyond his/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</td>
</tr>
</tbody>
</table>
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 Student Records 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 UAHuntsville 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.

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 Student Records 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 Student Records no later than two semesters from the date the original grade was assigned.

Pass-Fail Option

A student wishing to exercise a P-F option must apply to the Office of Registrar (UC 118) 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.

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 may not be taken P-F. Departments may limit the P-F to courses outside the department or college. P-F policies vary from college to college; consult your advisor before selecting this option.

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 third examinations rescheduled.

Student Grade Report

At the completion of each semester, a report of final grades is mailed to the address furnished by the student.

Grade Point Average

The grade point average (GPA) is computed by dividing the total number of quality points earned at UAHuntsville by the total number of semester hours attempted at UAHuntsville (transfer grades are not included). Courses in which a grade of NC, W, P, S, X or AU is assigned are not included.

Academic Achievement

Honor Scholar

An undergraduate student in good standing earning 12 or more semester hours in a semester with a GPA of 3.50-4.00 is distinguished by being identified as an honor scholar. A GPA of 4.00 is noted with an asterisk “*”.

Scholar

An undergraduate student in good standing earning 12 or more semester hours in a semester with a GPA of 3.00-3.49 will be designated on the list of scholars.

Graduation with Honors

Graduation with honors at the baccalaureate level requires a minimum of 60 semester hours at UAHuntsville. Honors will be determined by the grade-point average for the last 60 semester hours of coursework taken at UAHuntsville or the overall GPA for all coursework taken at UAHuntsville, whichever is higher. The academic terms containing the last 60 hours of coursework taken at UAHuntsville will be identified and the GPA of all UAHuntsville 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

In order to be in good academic standing, students must maintain a grade point average above the Academic Action Threshold (AAT), which varies according to classification. For students with 1-31 credit hours, the AAT is 1.9; for students with 32 or more credit hours, the AAT is 2.0. A student whose semester GPA at UAHuntsville 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 UAHuntsville 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 UAHuntsville cumulative is less than the applicable AAT.

**Dismissal.** 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 UAHuntsville 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 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 UAHuntsville. If the student at that time has earned a 2.00 on all UAHuntsville coursework, the Conditional/Probational classification will be changed to regular student status. The deadline to submit a petition for readmission to Charger Central (UC 118) 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 Vice President for Academic Affairs, in that order. Students classified as “special” will be routed through the most appropriate academic dean, but should begin by contacting the Academic Advisement and Information Center, 824-6290. Students should contact their major advisor for assistance.
Visiting Student Program

A cooperative arrangement exists with Alabama A&M University, Athens State University, Calhoun Community College, Oakwood College and the University of Alabama in Huntsville. A similar arrangement exists with the University of Alabama at Birmingham and the University of Alabama. Under either of these arrangements, 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 credit 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-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 Office of Student Records for information regarding the procedures to be followed.

Transcripts

Official transcripts are issued and sent by the Office of Student Records to recognized institutions and agencies, which require such documents. Transcripts are issued upon the written request (on a form available in Charger Central) of the student involved and payment of a transcript fee. Faxed transcripts are available for a fee, but are not considered official documents. Transcripts may be issued to individual students; however, they will be marked as issued to student. No transcript will be issued for a person who has a financial obligation to the University.

Correspondence Study and Other Non-resident Credit

Up to 25 percent of the credit applied toward a baccalaureate degree may be earned by means other than residence credit at an approved institution. Examples of other means are credit by examination, correspondence study, educational experiences in the armed forces, and professional certificate programs. Persons interested in taking correspondence study courses through the University of Alabama in Tuscaloosa may obtain a catalog from the Office of Instructional and Testing Services, Room 226, Business Administration Building, or by writing to the College of Continuing Studies, Independent Study Division, University of Alabama, P.O. Box 870388, Tuscaloosa, AL 35487.

Course Numbering System

<table>
<thead>
<tr>
<th>Range Year</th>
<th>Student Normally Takes Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>001-099</td>
<td>Refresher (noncredit)</td>
</tr>
</tbody>
</table>
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 in Charger Central. 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 requirements for the Bachelor of Arts, Bachelor of Science, Bachelor of Science in Business Administration, and Bachelor of Science in Nursing degrees are 128 semester hours. For the Bachelor of Science in Engineering degree (Electrical Engineering option) 128 semester hours; (Industrial and Systems Engineering option) 130 semester hours; (Chemical Engineering option) 132 semester hours; (Civil Engineering option) 131 semester hours; (Computer Engineering option) 129 semester hours; (Aerospace Engineering option in Mechanical Engineering) 134 semester hours; (Optical Engineering option) 128 semester hours; and (Mechanical Engineering option), 134 semester hours. A minimum of 25 percent of the total requirements and 12 of the last 18 hours must be completed at UAHuntsville. Also, 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 UAHuntsville in a student’s program (6 hours in the major and 6 hours in the minor or cognate studies). A minimum of 30 percent of the total degree requirements must be taken in numbered 300 or above (39 hours for a 128 hour requirement).

2. The maximum amount of correspondence or credit by examination allowed towards a bachelor’s degree is 25 percent of the degree requirements.

3. An overall average of C is required for all courses taken at UAHuntsville; and in all courses in the major discipline taken at UAHuntsville; and in all courses in the minor discipline taken at UAHuntsville or in all courses listed in the cognate studies option taken at UAHuntsville.

4. Additional degree requirements for each degree are described in the appropriate sections of this catalog.

Requirements for Programs Leading to the B.A. Degree

Requirements for the B.A. Degree are described in the College of Liberal Arts section of this catalog.

Requirements for Programs Leading to B.S. Degree
Requirements for the B.S. Degree are described in the College of Science section of this catalog.

Requirements for Programs Leading to B.S.B.A., B.S.E., and B.S.N. Degrees

Requirements for professional programs offered are described in the appropriate sections of this catalog. These programs include the Bachelor of Science in Business Administration, the Bachelor of Science in Engineering, and the Bachelor of Science in Nursing.

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 UAHuntsville. 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 Office of Student Records. 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 Office of Student Records.

Academic Programs

- Library
- Cooperative Education (Co-op) Program
- Honors Program
- Prelaw Program
- Preprofessional Health Advisement of Programs
- Undergraduate Colleges, Majors and Degrees
- Degrees Offered
- Dual Degree/Second Bachelor’s Degree
- Dual Degree
- Second Bachelor’s Degree
- Double Major
- Declaring a Major
- Minors and Cognates
- Program of Study
- Change of College
- Core Competencies for General Education Requirements
- Army ROTC Program
- Introduction to University Life
- Career Exploration

Library

333 Salmon Library
Telephone: (256) 824-6540
Email: library@email.uah.edu
Dean: Wilson Luquire, Ph.D.
Professor Luquire; Lecturers Coleman, Moore, Olson, Ong, Vaughan.
Library research provides students with the skills necessary to complete their academic studies and to prepare for successful professional lives. The methods and materials covered in class will support students in a lifetime of research and learning. A Library research course is offered as an elective.

Bibliography (BIB)

[Print Course]

BIB 100 - Introduction to Library Research

Hours: 2 hrs
Introduces students to the organization and use of university libraries and their collections. Focuses on successful research techniques utilizing reference materials, indexes and abstracts, government documents, and computerized information sources. Includes practical applications of both traditional and computerized resources.

Fee
Lab Fee: $10.

M. Louis Salmon Library

The M. Louis Salmon Library is housed in a 105,000 square feet facility which includes a state-of-the-art high-tech wing with an Information Arcade, five computer labs, including a math tutorial lab, a liberal arts lab, a nursing lab, and a Library/distance learning lab. Over 250 workstations are supported in the facility.

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. Over 100,000 electronic periodicals, over 60,000 electronic books and over 250 databases can be accessed both on and off campus via the Library website at http://www.uah.edu/library. 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 UAHuntsville 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. UAHuntsville subscribes to numerous full-text and bibliographical data bases each of which supports specific colleges, including Liberal Arts, Nursing, Administrative Science, Engineering, and Science.

The Library is privileged to provide access to many major online resources including the entire Elsevier online collection of over 1845 journal titles through Science Direct as well as the IEEE collection. Many materials from the Library are available without charge to UAHuntsville faculty members and graduate students by request through the Salmon Library. Reciprocal borrowing agreements are also in force with over 100 academic libraries and particularly with the Network of Alabama Academic Libraries (NAAL). Also, the Library has a contract with the University of Illinois and its 10 million books and 100,000 serial titles. 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 both through electronic reference and onsite supported by subject specialist librarians, who are available to assist students in finding information in person, by e-mail, phone or through the Library’s virtual reference service. 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 group study rooms, computers for writing papers, a scanner workstation, a digital audio/video room, and support for distance education and special computer accommodations for users with disabilities. A new and user-friendly printing system is also available in the Library InfoArcade and labs.

For additional information, inquire at the Circulation Desk, (256)824-6530, the Reference Desk, (256)824-6529 or Interlibrary Loan, (256)824-6124. Library home page: http://lib.uah.edu.

Cooperative Education (Co-op) Program

Suzanne Norris, Director
117 Engineering Building
Telephone: (256) 824-6741
Email: coop@uah.edu
Web page: www.uah.edu/coop

The UAHuntsville Cooperative Education Program (Co-op) provides a unique, structured educational experience for qualified students. Co-op students gain practical, professional work experience while completing degree requirements. Through the integration of classroom theory and professional practices, students increase their educational understanding. They also develop a sense of responsibility, judgment and maturity.

The UAHuntsville Co-op Program offers alternating and concurrent parallel options. Alternating students alternate semesters of full-time study with semesters of full-time work in their majors. Some students may elect to complete continuous parallel (part-time work) assignments concurrently with a reduced class load. Co-op work experiences are progressive in responsibilities, monitored by the University, and directly related to the students’ academic and career goals.

The UAHuntsville Co-op Program was established in 1979. Since then, more than 3,500 students have completed work assignments in business, industry, and government. These students have enriched their education and earned more than $52.5 million. This year, approximately 400 students will work in Co-op jobs and will earn an average of $9,000 per work term.

Co-op presents a variety of career options for UAHuntsville students. Most students complete assignments in the Huntsville area, though some choose to work with unique non-local companies.

Co-op students are better prepared to secure full-time employment than other students. A large percentage of Co-ops elect to accept offers with their Co-op employer after graduation.

UAHuntsville has a premier Co-op Program, and our students have been recognized at the university, state, and national levels for their outstanding academic and career achievements.

Co-op is open to all majors at UAHuntsville, and students in all undergraduate disciplines are potential candidates for Co-op positions. All UAHuntsville students – regardless of race, color, religion, sex, age, national origin, disability or veteran status – are eligible to apply.

Honors Program

Dr. Harry S. Delugach
336 Morton Hall
The Honors Program at the University of Alabama in Huntsville provides academically talented undergraduate students with opportunities to develop their special talents and skills within an expanded and enriched version of the curriculum. Honors coursework parallels regular offerings. The courses include special interdisciplinary seminars and opportunities for internships, independent study and research, including the opportunity to work closely with faculty on special student projects. Participating students also benefit from the interaction the Honors Program affords with other talented and highly motivated students.

Students who wish to complete the Honors Diploma must earn a minimum of 24 hours in Honors course work by graduation, and they must submit an approved Honors Research/Creative Project. Research projects may be done either in H 499: Honors Research/Creative Project or in conjunction with capstone or independent study courses in the student’s major or minor. Students who plan to complete the Honors Research Project through courses in their major or minor submit an Honors Research/Creative Project Proposal form identifying those classes so that they may count toward the Honors Diploma. A maximum of 6 semester hours in courses in which the student produces the Honors Research Project may be included in the 24-hour minimum for the Honors Diploma. Honors courses typically serve in the students’ curricula as courses to satisfy the GER, major and minor requirements, and electives, so they do not constitute additional hours overall. Individual courses of study will vary depending on the student’s discipline.

However, to fully complete the Honors Program of Study, all students need to complete two hours of Honors Forum (H100); two Honors courses (6 hours) at the 300-level or above, including at least one Honors Interdisciplinary Seminar (H399 or other approved seminar); and an Honors Research/Creative Project. Students may count no more than three hours of H 100 toward the 24-hour requirement. All entering freshman Honors students will enroll in EH 105: Honors English Seminar (3 hours). Students may complete additional hours by taking other designated Honors courses in a wide variety of disciplines. Students may also contract for Honors credit in any regular academic courses (including in his or her major or minor) with permission from the instructor, whereby a student enters into a contract for Honors credit for that course. The Honors contract specifies that the course content will be appropriate to earn Honors credit.

The Honors Program serves academically talented students in all the colleges. Entering freshmen are invited to participate based on an evaluation of their ACT or SAT scores and high school grades. Students are encouraged to join the Honors Program at the beginning of their freshman year to gain full advantage of the program’s benefits and enhanced curriculum. Interested UAHuntsville and transfer students who have maintained a grade-point average of 3.25 or higher and who have completed less than 29 hours of coursework can still complete all requirements of the Honors Program. Those who have more than 29 hours of credit may complete the Certificate for Completion of the Upper-level Requirements of the Honors Program. The Certificate requires 12 hours of Honors course work, including 6 hours at the 300 level or above (including at least 3 hours of H 399: Honors Interdisciplinary Seminar), plus an approved Honors Research Project. Students are encouraged to contact the director to determine how they may best participate in the program.

Many Honors course offerings are through Honors sections taught in regular departments, so students should check the catalog course listings for each department. All courses offered for Honors credit each semester are also listed on the Honors web site. Courses specifically developed for the Honors Program are listed below. University students who meet appropriate admissions standards for the Honors Program may enroll in Honors courses.
**H 100 - Honors Forum**

**Hours:** 1  
Regularly scheduled to enrich the experiences of Honors Program students using lectures, concerts, exhibits, and other events. Provides exposure to a broad range of academic disciplines. **Prerequisites:** Admission to Honors Program.

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**EH 105 - Honors English Seminar**

**Hours:** 3  
Interpretive and comparative readings in texts of enduring intellectual, esthetic, and ethical importance; critical and analytic writing and research. **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 Program.

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**EH 250(H) - Honors World Literature I**

**Hours:** 3  
Focuses on major texts from the ancient world to 1700. Honors English 250 and 251 meet sophomore level literature requirements for the BS and BA degrees and constitute a sequence for engineering students. **Prerequisites:** EH 105 or admission to Honors Program.

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**EH 251(H) - Honors World Literature II**

**Hours:** 3  
Focuses on major texts from 1700 to the present. **Prerequisites:** EH 105 or admission to Honors Program.

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**H 399 - Honors Interdisciplinary Seminar**

**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.
H 400 - Honors Internship

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 in regular contact with the study. The outside entity must identify a mentor who will keep in 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 Director of the Honors Program. Restriction: Open only to active members of the Honors Program. Offered Spring 2010

H 499 - Honors Research Project

Hours: 1-3
Individual research under direction of a faculty advisor. May be taken for up to 6 semester hours of credit.

For more information concerning the Honors Program, please write the Director of the Honors Program, The University of Alabama in Huntsville, Huntsville, AL 35899, or telephone 256-824-6450; email: delugach@cs.uah.edu.

Prelaw Program

To be admitted to an accredited law school, the student must have a bachelor’s degree, an acceptable score on the Law School Admissions Test (LSAT), and, in most cases, an accumulative grade point average of B or better. The LSAT should be taken in June or October of the year before the student plans to enter law school. Applications to law school, together with test scores, transcripts, and recommendations, should be submitted to law schools no later than January 1 of the year the student plans to begin law school.

For specific admission requirements, the student should consult the catalog of the law school he or she wishes to attend. In pursuing a prelaw program at the University of Alabama in Huntsville, the student will find that the best preparation during the first two years is the completion of the general education requirements. The Statement on Prelegal Education of the Association of American Law Schools notes that “What law schools seek in their entering students is not accomplishment in mere memorization but accomplishment in understanding, the capacity to think for themselves, and the ability to express their thoughts with clarity and force.” The prelaw student therefore must develop perception and skill in the English language, insight into the institutions and values with which people are concerned, and the power to think clearly, carefully, and independently. Since these skills are fostered by the general education requirements, completion of them should be the primary concern of the beginning prelaw student.

No law school recommends a particular major or minor as preparation for admission. Students should therefore design their program of study with the aim of further development and promotion of the skills listed above. Care should be taken in choosing electives. Aside from the courses in the general education requirements, the prelaw program often includes courses in political science, economics, philosophy (especially logic), American history, English, statistics, and computer science. One course in accounting is recommended. Since admission to law school is highly competitive, completion of recommended programs and requirements will not necessarily insure admission.
All prelaw students should seek academic counseling from the prelaw advisor, Professor Andrew Cling, in the Philosophy Department (MH 325, 824-2334). The official Prelaw Handbook may be consulted in his office or ordered from the Law School Admissions Services, Box 2000, Newtown PA 18940.

Preprofessional Health Advisement of Programs

Preprofessional health advisement is offered through the UAHuntsville Preprofessional Advisory Committee. Preprofessional health programs of study could include premedical, predental, preoptometry, preveterinary medicine, preosteopathic medicine, prepharmacy, prephysical therapy, and many other related disciplines. UAHuntsville offers academic preparatory options, which are flexible and provide a broad enough background to satisfy a wide variety of career objectives, including the diverse fields in the health professions. For some professional schools, acceptance might be dependent on good grades (i.e. above average), positive recommendations (e.g. employers, faculty), health related experiences (e.g. volunteering, shadowing, internships), quality interview skills and acceptable admissions test scores (e.g. Medical College Admission Test, Dental Admission Test, Optometry Admission Test).

Many students entering professional schools (e.g. medical, dental, optometry) do so after earning an undergraduate and/or graduate degree. No particular academic major or minor is preferred. However, it is very important to consult with the desired professional school to determine specific admission requirements. Competition for admission to professional schools is very intense and students should realize that completion of only the minimum admission requirements does not insure acceptance.

Typical of the requirements for admission to medical colleges are those which follow for the University of Alabama School of Medicine:

1. English: composition and literature 12hrs
2. General chemistry/inorganic with laboratory 8 hrs
3. Organic chemistry with laboratory 8 hrs
4. General biology with laboratory 8 hrs (Additional biology electives recommended: genetics, zoology, cell biology, physiology)
5. General physics with laboratory 8 hrs
6. Two semesters of college mathematics. 6 hrs

Students are advised to choose programs of study according to individual interests and abilities so that they may fulfill their maximum academic potential.

Typical of the requirements for admission to dental schools are those which follow for the School of Dentistry of the University of Alabama in Birmingham:

1. Biological sciences (cell biology, zoology, physiology) 12 hrs
2. Inorganic chemistry (including qualitative analysis) 8 hrs
3. Organic chemistry with laboratory 8 hrs
4. Biochemistry is strongly recommended 4 hrs
5. Physics with laboratory 8 hrs
6. Calculus 6 hrs
7. Non-science courses (30 hrs) to include English (6 hrs.), history, political science, economics, philosophy, psychology, sociology, literature or foreign languages. Courses to enhance manual dexterity (sculpture, painting, art, etc.) are encouraged. 30 hrs
8. The completion of a minimum of 90 semester hours of collegiate work with a maximum of 60 semester hours earned at an accredited community college.

Students interested in preprofessional health programs are encouraged to contact the Chair of the UAHuntsville Preprofessional Advisory Committee, (Dr. Adriel D. Johnson, Sr., johnsona@uah.edu) early in their college career. You can also call the Office of the Dean, College of Science for assistance.
Undergraduate Colleges, Majors and Degrees

The undergraduate academic programs of the University of Alabama in Huntsville are administered by five colleges with the following approved major programs:

College of Administrative Science

Areas of study in which majors are currently offered are:

- Accounting
- Management Information Systems
- Finance
- Marketing-Management Track
- Management-Business Administration Track
- Management-Human Resources Track
- Marketing-e-Business Track

Courses are also offered in business law and management science.

College of Liberal Arts

Areas of study in which majors are currently offered are:

- Art & Art History
- Concentration in Foreign Languages and International Trade
- Communication Arts
- Elementary Education
- History
- English
- Music
- Foreign Language
- Philosophy
- French
- Political Science
- German
- Psychology
- Russian
- Sociology
- Spanish

Other areas with course offerings are computer-mediated communication, Japanese, Latin, linguistics, statistics, women’s studies, and physical education. Secondary Education is done in conjunction with the major area of study.

College of Engineering
Areas of study currently offered are:

- Chemical Engineering
- Electrical Engineering
- Civil Engineering
- Industrial and Systems Engineering
- Mechanical Engineering
- Computer Engineering
- Optical Engineering
- Aerospace Engineering Option in Mechanical Engineering

College of Nursing

All majors receive instruction in the theory of nursing as well as laboratory practice in a variety of clinical settings to prepare them for beginning-level practice in professional nursing. Graduates of this first professional degree are qualified to apply for licensure as registered nurses.

College of Science

Areas of study in which majors are currently offered are:

- Biological Sciences
- Mathematics
- Chemistry
- Physics
- Computer Science

Courses are also offered in atmospheric and environmental science, astronomy, optics, and statistics.

Degrees Offered

Programs are provided as indicated below for the undergraduate degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Science in Business Administration, Bachelor of Science in Engineering, and Bachelor of Science in Nursing.

Bachelor of Arts - Art and art history, biological sciences, communication arts, elementary education, English, foreign language, history, mathematics, music, philosophy, political science, psychology, sociology.

Bachelor of Science - biological sciences, chemistry, computer science, mathematics, physics.

Bachelor of Science in Business Administration - accounting, finance, management, management information systems, marketing.

Bachelor of Science in Engineering - unified programs with professional specializations.

Bachelor of Science in Nursing - unified professional curriculum.

Dual Degree/Second Bachelor’s Degree
A student may choose to have a double major and earn one degree. (See Double Major.) The following policy applies to those students who wish to earn two degrees simultaneously (see Dual Degree) or sequentially to a first degree (see Second Bachelor’s 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).

**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 UAHuntsville coursework; (3) complete a minimum of 128 hours in 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 UAHuntsville after having earned a first degree at UAHuntsville 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; (2) earn at least an average grade of C in all UAHuntsville coursework; (3) complete a minimum of 25% of the total degree requirements at UAHuntsville 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 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 UAHuntsville 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 UAHuntsville above the requirements for the first bachelor’s degree or all coursework taken at UAHuntsville 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.

**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. 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.

**Declaring a Major**

When applying to enter UAHuntsville, prospective students may declare a major or program of study. Some students are not yet decided, and may declare “undecided”. The Colleges of Administrative Science, Engineering, Liberal Arts, Science and Nursing assign advisors. Undecided students will be advised by General College Student Advising (GCSA) in room 108, Madison Hall. When a student declares a major, the student will be assigned an advisor by the department chair. At that time the complete advising folder will be transferred from GCSA to the relevant department chair for permanent retention. Sophomores who have not declared a major will continue to have their registration forms signed in GCSA. For procedures in the Colleges of Administrative Science, Engineering, Liberal Arts, and Nursing, contact the advising office of the college.
Minors and Cognates

Most degree programs in the Colleges of Liberal Arts and Science require either a minor or a cognate. Typically minors are offered in all major fields of study and require 18 to 21 hours of work, twelve of which are at the 300/400 level; students should consult their advisors and the appropriate subject area portions of the catalog. Students may also fashion a cognate in lieu of a minor. Cognates are drawn from two or more closely related disciplines and consist of a minimum of 21 hours. Advisors and deans must approve cognates.

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

Program of Study

The Program of Study form is a document prepared cooperatively by a student and a faculty advisor, with assistance of the Office of Student Records in preparing the evaluation of transfer credits and reviewing general education requirements. Academic departments and colleges must assume responsibility for ensuring that each of their students has an opportunity to develop a Program of Study before the end of the student’s sophomore year. Once the Program of Study form has been accurately completed and signed by the appropriate individuals, it becomes a contract between the student and the University with responsibilities bearing on both parties.

Change of College

Students who are pursuing a program of study in one college at UAHuntsville and desire to change to a program in another college may petition to do so by making application at the Office of Student Records. 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.

Core Competencies for General Education Requirements

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

1. Effective communication;
2. Ability to deal with questions of values, ethics, and aesthetics as represented in literature, the humanities, and the arts;
3. Understanding of the scientific method and application of quantitative or inductive reasoning; and
4. Understanding of human behavior and economic, social, and political structures as represented in the disciplines of history and social and behavioral sciences.

These core competencies are consistent with those of a 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.

Army ROTC Program
Through the visiting student program, students at the University of Alabama in Huntsville may enroll in the ROTC Program in the Department of Military Science at Alabama A&M University. A prescribed course of study under the program prepares graduates for positions of officer leadership within the national defense structure. Depending upon qualifications students may enroll either in a basic or advanced course of study in the ROTC Program. Specific requirements and a description of the courses of study are provided in the current Alabama A&M catalog. Students interested in participating in this program should contact the Department of Military Science at Alabama A&M University and the Office of Student Records at the University of Alabama in Huntsville.

Introduction to University Life

Introduction to University Life (UNV 101) is a course designed to facilitate the successful transition of new students into the UAHuntsville community. This one credit hour elective course will assist students in the development of academic and personal skills that contribute to success in college, the workplace, and lifelong learning. The education strategy for the course includes cooperative learning, guided discovery activities, journal writing and various assessment measures.

Career Exploration

The Career Exploration (OCS 111) course is a one credit hour elective course designed to assist students in identifying their interests, abilities, values and personality traits, as they relate to the selection of both a major course of study and career opportunities. Students will also learn effective job search skills. Lab fee: $10.

Faculty

- Full Time Faculty
- Part Time Faculty
- Emeriti Faculty

Full Time Faculty

(Date refers to original appointment to the university; asterisk designates Graduate Faculty.)

ADAMS, ELLISE, B.S.N. (The University of Alabama in Huntsville), M.S.N. (Case Western Reserve University). Clinical Assistant Professor of Nursing, 2006. Research Interests: Intrapartum nurses as doulas: increasing training in supportive behaviors to aid in the reduction of cesarean rates, length of labor and anesthesia and analgesia. Email: ellise.adams@uah.edu

ADHAMI, REZA, B.S.E., M.S.E., Ph.D. (University of Alabama, Huntsville). Chair and Professor of Electrical Engineering, 1984.* Research Interests: Digital signal processing, digital image processing, pattern recognition, data compression, and digital communications. Email: adhami@ece.uah.edu

AI, SHANGBING, B.S., M.S. (Shandong University), Ph.D. (University of Pittsburgh). Associate Professor of Mathematical Sciences, 2002.* Research Interests: Differential equations and dynamical systems. Email: ais@math.uah.edu

ALEXANDER, SUSAN, B.S.N., M.S.N. (University of Alabama in Huntsville). Clinical Assistant Professor in Nursing, 2009. * Research Interests: Pressure Ulcer Prevention and Treatment in SCI Patients, Application of health information technology in ambulatory care. Email: susan.alexander@uah.edu
AL-HAMDAN, ASHRAF, B.S. (Jordan University of Science and Technology), M.S. (Jordan University of Science and Technology), Ph.D. (University of Illinois). Lecturer of Civil and Environmental Engineering, 2007*. Email: alhamdan@eng.uah.edu

ALLEN, W. DAVID, B.A., M.A. (Eastern Illinois University), Ph.D. (University of Arkansas), Associate Professor of Economics, 1994.* Research Interests: Labor, time allocation, crime. Email: allend@uah.edu

ALLPORT, CHRISTOPHER D., B.S. (Fairmont State College), M.A. (West Virginia University), Ph.D. (Virginia Polytechnic Institute). Assistant Professor of Accounting, 2004. Research Interests: Judgment and decision making research in managerial and auditing contexts. Email: christopher.allport@uah.edu

ANDERSON, E. FAYE., B.S. (McNeese State University), M.S. (University of Southern Mississippi), D.S.N. (Louisiana State University). Associate Professor of Nursing, 2003, * Research Interests: Community health, healthcare management. Email: andersof@uah.edu

ANDERSON, MICHAEL D., B.S., M.S., Ph.D. (Iowa State University), Assistant Professor of Civil and Environmental Engineering, 1998.* Research Interests: Transportation and traffic engineering, intelligent transportation systems, urban planning, and applications of geographic information systems to transportation. Email: miikea@cee.uah.edu

ASHOUR, MOHAMED, B.S.C.E., M.S (Mansoura University), Ph.D. (University of Nevada). Associate Professor of Civil and Environmental Engineering, 2008.* Research Interests: Soil-Structure-Interaction; Laterally and Axially Loaded Piles/Large Diameter Shafts; Soil Modeling; Soil Liquefaction and Lateral Spread, Slope Stabilization; Seismic Behavior of Deep Foundations and Bridge Abutments; Experimental Testing. Email: ashour@eng.uah.edu

AYGUN, RAMAZAN S., B.S (Bilkent University, Turkey), M.S. (Middle East Technical University, Turkey), Ph.D. (State University of New York, Buffalo). Associate Professor of Computer Science, 2003.* Research Interests: Multimedia databases, multimedia synchronization, modeling and verification of multimedia systems. Email: raygun@cs.uah.edu

BACON, CHRISTY L., B.S.N., M.S.N. (Jacksonville State University). Clinical Instructor in Nursing, 2009. Email: clb0018@uah.edu

BAGINSKI, MELISSA N., B.S.N. (University of Alabama), M.S.N. (University of Virginia). Clinical Assistant Professor of Nursing, 2009. Email: melissa.baginski@uah.edu

BAIRD, JAMES K., B.S. (Yale University), M.A., Ph.D. (Harvard University). Professor of Chemistry, and Director, Joint Materials Science Doctoral Program. 1982.* Research Interests: Diffusion in solids, crystal growth, critical phenomena, shock waves and plasmas. Email: bairdj@uah.edu

BALASUBRAMANIAN, Sreeram, B.A., (University of Bombay, India), M.S., Ph.D. (University of Alabama in Huntsville), Visiting Assistant Professor of Biological Sciences, 2010. Research Interests: Microbiology. Email: balasus1@uah.edu

BALDWIN, AMELIA, B.S.B.A., M.A. (Auburn University), PhD (Virginia Tech). Associate Professor of Accounting 2006.* Research Interests: Investigating the impact of emerging technologies on accounting and business organizations and tasks. Email: amelia.baldwin@uah.edu

BALLA, ANGELA, B.A. (University of Arizona), M.A., PhD (University of Michigan). Assistant Professor of English, 2006.* Research Interests: Early modern poetry, religion, and intellectual history, and ethical and political thought. Email: angela.balla@uah.edu

BALLINGER, JOHN P., Ph.D. (Georgia State University), M.Ed. (Georgia State University), B.I.E. (Auburn University). Director of CMOST and Associate Research Professor of Management Science, 2007.* Email: ballenj@uah.edu
BALTAIAN, SARKIS, B.M. M.M. Ph.D. (University of Southern California). Assistant Professor of Music, 2008. Research Interests: Performance. Email: sarkis.baltaian@uah.edu

BANISH, MICHAEL, B.S. (Westminster College, Utah). Ph.D. (University of Utah). Sr. Research Scientist of CMR and Associate Professor of Chemical Engineering, 1998. Research Interests: Photothermal deflectometry, crystal growth furnace development, growth of organic nonlinear optical materials by effusive ampoule physical vapor transport. Email: banishm@uah.edu

BAO, YEQING, B.S., B.E. (Tsinghua University, Beijing). Ph.D. (Virginia Tech). Associate Professor of Marketing, 2001. Research Interests: Consumer socialization, advertising strategy, and International marketing. Email: baoy@uah.edu

BARDOT, DAWN, B.S. (Kansas State University). M.S. (Kansas State University). Ph.D. (University of Washington). Assistant Professor of Mechanical and Aerospace Engineering 2008. Research Interests: Computational and experimental methods in thermal/fluid science and biomedical engineering with emphasis on simulation validation and virtual prototyping. Email: dawn.bardot@uah.edu

BARNBY, ELIZABETH, A.D.N. (Middle Tennessee State). B.S.N., M.S.N. (University of Alabama in Huntsville). Clinical Instructor, 2009. Email: barnbye@uah.edu

BECK, MONICA, B.S.N., M.S.N. (University of Alabama in Huntsville). Clinical Assistant Professor, 2009. Email: mlb0015@uah.edu

BENTON, ANNA, A.S.N. (Ne AL State Community College, Rainesville, AL). B.S.N. (University of Alabama Huntsville). MSN (University of Alabama Huntsville). Clinical Instructor of Nursing, 2008. Email: Anna.Berry@uah.edu

BETANCOURT, JOSE, A.A.D. (Seminole Community College). B.A. (University of South Florida). M.A. (City University of New York). Assistant Professor of Art and Art History 2007. Research Interests: Photography. Email: jose.betancourt@uah.edu

BIANCHI, ANN, B.S.N. (George Mason). M.S.N. (University of Alabama in Huntsville). Clinical Assistant Professor of Nursing 2007. Email: Ann.Bianchi@uah.edu

BOCTOR, LISA, B.S.N. (University of North Alabama) M.S.N. (University of Alabama). Clinical Instructor, 2010. Research Interests: Endocrinology, Rheumatology, Simulation in Nursing Education and Case Management. Email: lisa.boctor@uah.edu
BOLLINGER, LAUREL A., B.A. (St. Olaf College), Ph.D. (Princeton University). Associate Professor of English and Director of Freshmen Composition, 1993. * Research Interests: American literature, gender studies. Email: bollinl@uah.edu

BONAMENTE, MASSIMILIANO, M.S., Ph.D. (University of Alabama in Huntsville). Associate Research Professor, Associate Professor of Physics, 2002. * Research Interests: Ultraviolet and x-ray emission from clusters of galaxies. Email: bonamentem@uah.edu

BONILLA, MARY, K., B.S. (Auburn University), B.S., M.S.N., C.R.N.P. (University of Alabama in Huntsville). Clinical Assistant Professor of Nursing, 1998. * Research Interests: Obesity, Weight Loss, Diabetes Mellitus and Osteoporosis. Email: bonillam@uah.edu

BOWMAN, ELIZABETH, B.S., M.A., (University of Alabama in Huntsville). Lecturer in Mathematical Sciences, 2001. Research Interests: Mathematics education. Email: bowman@math.uah.edu

BOWMAN, RONALD D., B.S. (Rose-Hulman Institute of Technology), M.S., Ph.D. (Clemson University). Lecturer of Electrical and Computer Engineering, 2005. Email: bowmanr@ece.uah.edu

BOWYER, DONALD, B.A. (West Virginia Wesleyan College), M.A. (California State University, Northridge), D.A. (University of Northern Colorado), Chair and Associate Professor of Music, 1998. Research Interests: Music technology, composition, jazz. Email: bowyerd@uah.edu

BOYD, LYNN, B.A. (Wake Forest University), Ph.D. (University of Utah). Associate Professor of Biological Sciences, 1998. * Research Interests: Cell polarity in early development of caenorhabditis elegans, the role of the par-2 gene in cell polarization, proteins that interact with actin. Email: boydl@uah.edu

BOYKIN, TIMOTHY B., B.S.E.E. (Rice University), M.S.E.E., Ph.D. (Stanford University). Professor of Electrical and Computer Engineering, 1992. * Research Interests: Theory and modeling of compound and quantum semiconductor devices; physics of nanoelectronic devices; solid-state devices. Email: boykin@ece.uah.edu

BRIDGMON, SHANNON L, B.A., M.PA., Ph.D. (University of Alabama). Assistant Professor of Political Science, 2008. * Research Interests: Southern Politics, Political Parties, Political Culture, Race and Representation in Public Policy, Social Welfare, Budgeting, Finance, Grant Writing, State/Local Government. Email: slb0004@uah.edu

BROL, Lester T., B.S. (Illinois State University), M.B.A. (DePaul University). Lecturer of Finance, 2010. Email: lester.brol@uah.edu

BROWNING, MARTA A., B.S. (University of Virginia, Charlottesville), M.S. (Texas Women’s University), Clinical Associate Professor of Nursing, 2002. Email: brownim@uah.edu

BUKSA, IRENA, M.A. (University of Warsaw, Poland), D.A. (Syracuse University). Associate Professor of Slavic Languages, 1990. Research Interests: Russian/Slavic linguistics and 20th Century Russian literature. Email: buksai@uah.edu

BURKO, LIOR., B.A. (Technion), M.Sc. (Technion), Ph.D. (Technion) Assistant Professor of Physics, 2005. * Research Interests: Gravitational Physics, Black Holes, Gravitational Waves, Radiation Reaction. Email: Burko@uah.edu

BURNETT, JOHN E., B.S. (University of New Mexico), M.A. (Claremont Graduate University), Ph.D. (University of Alabama, Tuscaloosa). Interim Chair of Accounting and Finance and Associate Professor of Finance, 1992. * Research Interest: Investments. Email: burnettj@uah.edu

BURNS, LAIRD A., B.B.A. (Grand Valley State University), M.B.A. (University of Michigan), Ph.D. (Michigan State University). Assistant Professor of Management Science, 2009. * Research Interests: Supply chain design, risk and resilience in supply networks, modeling the dynamics of integrated supply networks; competitive strategy; supply chain management and complex systems. Email: lb0009@uah.edu
BYRUM, TIMOTHY, B.S.N., M.S.N. (University of Alabama in Huntsville). Clinical Assistant Professor of Nursing 2007. Email: tim.byrum@uah.edu

CARMEN, CHRISTINA, B.S., M.S. (Georgia Institute of Technology), PhD (The University of Alabama in Huntsville). Lecturer of Mechanical and Aerospace Engineering, 2006. Email: christina.carmen@uah.edu

CARPENTER, SANDRA L., B.A. (California State University), Ph.D. (University of California). Professor of Psychology, 1989. Research Interests: Social, personality, and cognitive psychology, categorization of information about ourselves, information about other people, causes of anger and consequences of categorizations. Email: carpens@email.uah.edu

CASSIBRY, JASON T., B.S. (University of Missouri, Rolla), M.S. (University of Illinois), Ph.D. (University of Alabama in Huntsville). Assistant Professor of Mechanical and Aerospace Engineering, 2005. Research Interests: Electric and advanced space propulsion for spacecraft, magnetohydrodynamics, fusion for propulsion and power production, particle-in-cell simulations, high temperature equations of state. Email: cassibj@uah.edu

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