Future Sustainability for the UAHuntsville Campus
An Analysis of ‘Green’ Initiatives and their Benefits

1. Project Summary
The goal of this research is to increase the sustainability of the UAHuntsville campus through academic evaluation of existing green programs at other major universities and through practical measures specific to the UAHuntsville community. The research focuses on literature review and interviews with individuals implementing these programs at other universities, as well as interviews with members of the UAHuntsville community that play a role in campus sustainability. Additionally, small projects using GIS and remote sensing helped to address specific topical areas of sustainability on a university campus, including: energy efficiency, waste management, water conservation, transportation, dining and education.

2. Topics
A. Energy Efficiency focused on reducing the amount of energy waste produced at the university through case studies and the current PowerSave Interns on UAHuntsville’s campus. The major projects outlined include an (1) energy auditing dashboard, (2) energy conservation campaign through campus as a lab and (3) renewable energy sources at UAHuntsville and in the Huntsville community (see corresponding Figure 2.)

B. Waste Management emphasized the benefits of recycling and waste reduction on campus. The two major components of waste reduction for this project include (1) campus wide recycling and (2) a waste reduction goal through a Ban the Bottle program.

C. Water Management included (1) an auditing system similar to that of the energy dashboard, (2) insight into the campus sprinkler system, and (3) campus landscape. The landscape aspect involved an analysis of impermeable surfaces, runoff, and groundwater replenishment (see corresponding Figure 1.)

D. Transportation was outlined by a campus (1) Bike Share program and (2) a Car Share program with a specific focus on Zimride. Case studies were evaluated, and steps for the Bike Share Program at UAHuntsville are being pushed forward in the 2012-2013 school year (see corresponding Figure 3.)

E. Food Sources included (1) a push for local and organic food sources through the current Sodexo services, as well as (2) waste reduction and (3) composting measures for the university.

F. Environmental Education and Community Involvement focused on education and involvement at a campus and community level. Courses and curriculum as well as community involvement were outlined in this section of the project. Green projects through Operation Green Team and the Mayor of Huntsville in addition to environmental studies at the university are key to this topic.

Figure 1 Erosion Susceptible Areas, Impermeable Surfaces, and Ground Water Recharge. The boxed-in area in the image on the left signifies the study area of campus. The slope degree outlined by the image on the right was analyzed to show erosion susceptible areas. Further study into drainage locations and water flow were included.

Figure 2 Renewable Energy Research at UAHuntsville. The image to the left is of the on campus research related to renewable energy, specifically solar energy. This is one example outlined by the Environmental Education and Community Involvement section. Addition studies are outlined in the section and include a plan and other university examples of sustainability courses related to a student curriculum. This ensures ongoing support and education in sustainability measures.

Figure 3 Bike Share Future Plan Locations at UAHuntsville.

3. Discussion and Future Research
This research provides a general guide for campus implementation of sustainable practices along with the economic and student benefits of such practices. The paper outlines the base for campus sustainability, and provides a guide for future research in these areas.