Ecosystems Engineering — Graduate Certificate

The Graduate Certificate in Ecosystems Engineering provides a specialization in the application of ecological and biological principles to solve complex engineering problems in natural and man-made systems. Because of this, the program is inter-disciplinary in nature.

This graduate certificate program is designed for individuals holding baccalaureate degrees in engineering or appropriate science fields with an interest in ecological and natural system problem solving. Students can complete the certificate program in one academic year (fall and spring semesters) by passing four of the courses listed below (total of 12 credit hours), and attending (in-person) all required one-week labs for each course.

The mission of the Department of Biosystems Engineering is to develop and disseminate engineering knowledge to solve problems in agriculture, food, forestry, bioenergy and bioproducts, natural resources, and the environment. This mission is crucial to the overall mandate of Auburn University (the 1862 land-grant university for Alabama) that includes service to the citizens of the state of Alabama through instruction, research and outreach programs and preparing Alabamians to respond successfully to the challenges of a global economy. Increases in water needs and food supplies because of the projected world population of over 9 billion by 2050 will occur at the expense of forest, grassland and aquatic ecosystems. The biosystems engineering department has a 100 year history of developing engineering-based sustainable solutions to address ecosystems engineering issues such as engineering for watershed protection, improvement of water quality by managing and modeling non-point source pollution, design of biological waste treatment and reuse systems, practices for sustainable land development and restoration, etc., all of which are based on a combined knowledge of engineering and biological and ecological principles. Graduates from this program will be competent in restoring ecosystems that have been substantially disturbed by anthropogenic activities, and also be able to develop new sustainable ecosystems that have human and ecological value.