BIO 140
Environmental Biology

COURSE DESCRIPTION:

Prerequisite: Completion of General education core
Corequisite: None

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Course Hours Per Week: Class, 3; Lab, 0. Semester Hours Credit: 3.

LEARNING OUTCOMES:

Upon completion of this course, the students will be able to:

A. Articulate discipline-specific concepts and vocabulary and demonstrate empirical and conceptual knowledge foundational to all program disciplines.
B. Demonstrate college-level critical thinking, argumentation, and analysis skills.
C. Construct purposeful and effective written essays and oral presentations that demonstrate an understanding of rhetorical strategies and use experiential evidence and appropriately documented academic research.
D. Demonstrate an awareness and understanding of cultural and social diversity and gain the skills necessary to interact appropriately within diverse environments.
E. Demonstrate an understanding of the scientific method and its application, including interpreting and analyzing scientific data, forming hypotheses, and evaluating experiments.
F. Create a mathematical model of a practical problem and use the model to logically interpret and analyze the problem and make predictions.
G. Demonstrate competent and relevant technology skills.

OUTLINE OF INSTRUCTION:

I. Science and the scientific method

II. The Biosphere
    a. Biomes
    b. Ecosystems

c. Biodiversity
d. Evolution and extinction

III. Environmental Resources
a. Water
b. Land
c. Energy

IV. Environmental Threats
a. Global Climate change
b. Population dynamics
c. Disease
d. Pest and pest control
e. Pollution and waste management

V. Environmental Biology and Public Policy
a. Risk assessment
b. Assigning economic values to natural resources
c. Sustainability
d. Geopolitics

REQUIRED TEXTBOOKS AND MATERIAL:

Enger, E. and Smith, B. Environmental Science. 12th ed., McGraw-Hill Higher Education, 2010.

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 536-7207, ext. 1413 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.