

## **NRC Natural Resource Conservation and Management**

### **NRC 301 NATURAL RESOURCE CONSERVATION AND MANAGEMENT. (3)**

A beginning course in conservation and management of natural resources, with an emphasis on terrestrial resources. Structured inquiry will be used to illuminate major natural resource issues. Prereq: Sophomore standing in Natural Resource Conservation and Management, or consent of instructor.

### **NRC 320 DATA COLLECTION TECHNIQUE. (3)**

A field-oriented course taught as a three week summer camp at the Robinson Forest. Emphasis is placed on methodologies for data collection necessary to evaluate a variety of ecosystems on forest land, agricultural land and surface mined land. Students will become familiar with sampling instrumentation, collection, preservation, analysis and data interpretation. Lecture, 10 hours; laboratory, 30 hours per week for three weeks. Prereq: BIO 150, 151, 152, 153; CHE 105.

### **NRC 330 NEPA COMPLIANCE. (3)**

This course focuses on Federal agencies' compliance activities associated with the National Environment Policy Act. Implementing regulations issued by the Council on Environmental Quality and guidelines for NEPA compliance issued by various agencies comprise the foci for this course. Prereq: NRC 301 or consent of instructor.

### **NRC 380 ANALYSIS OF NATURAL RESOURCE SYSTEMS. (3)**

An intermediate course that teaches the analysis of complex natural resource systems through case studies, with emphasis on the scientific basis of such systems, but including interactions with social factors. Prereq: NRC 301.

### **NRC 381 NATURAL RESOURCE POLICY ANALYSIS. (3)**

Using an integrative systems approach, this course will generate a holistic framework of policy analysis related to natural resource conservation and management. Major integrative themes in this course will be economics, government, institutions, social, psychological, cultural and other human systems. Prereq: NRC 301 (no exceptions made).

### **NRC 395 INDEPENDENT STUDY IN NATURAL RESOURCES. (1-6)**

Study and independent work on selected problems related to conservation and management of natural resources. May be repeated to a maximum of six credits. Prereq: Consent of appropriate instructor.

### **NRC 399 EXPERIENTIAL EDUCATION IN NATURAL RESOURCES. (1-6)**

A field-based learning experience in natural resources under the supervision of a faculty member. May be repeated to a maximum of six credits. Prereq: Consent of instructor and department chair, and completion of a departmental learning contract.

NRC 420G TAXONOMY OF VASCULAR PLANTS. (4)

A survey of the identifying characteristics and evolutionary relationships among groups of vascular plants, concentrating on important families in the temperate flora of eastern North America. Students will gain experience in species identification and in the use of important tools and references of field botany. Lecture, three hours; laboratory, three hours; plus two Saturday field trips. Prereq: BIO 150, 151, 152 and 153; or one course in introductory botany; or consent of instructor. (Same as BIO 420G.)

NRC 450G BIOGEOCHEMISTRY. (3)

A course emphasizing the physical, chemical, and biochemical make-up of soil/water systems and the information required to predict chemical fate in the environment. Emphasis is placed on the relationships describing mineral solubility, sorption and exchange reactions, redox reactions, volatility, and biochemical cycling. Prereq: CHE 105, 107, 115; two semesters of college biology. (Same as PLS 450G.)

NRC 455G WETLAND DELINEATION. (3)

Basic concepts of natural wetland ecosystems, their importance, functions, and major features used for their identification and classification. Application of basic hydrology, hydrophytic vegetation and hydric soil indicators for identification of jurisdictional wetlands utilizing documentation and analysis of field collected data. Three laboratory exercises and four short field trips required. Prereq: PLS 366 or consent of instructor. (Same as PLS 455G.)

NRC 456G CONSTRUCTED WETLANDS. (3)

Important aspects of the functions of natural and constructed wetlands as water purifiers. Principles and mechanisms of the purification process, design, construction, operation and management criteria for efficient usage. Case studies and design problems of constructed wetlands on mining, agricultural, industrial and municipal wastewater treatment applications. Two all day field trips are required. Prereq: PLS 366 or consent of instructor. (Same as PLS 456G.)

NRC 471 SENIOR PROBLEM  
IN NATURAL RESOURCES. (3)

This course is designed to provide students with the opportunity to apply the skills and information acquired in previous courses to a real world natural resource problem. The class will focus on a single current natural resource conflict in Kentucky and will research the issue in depth, using a variety of techniques, including library research, interviews, and data collection and analysis. In addition to research and problem-solving skills, written and oral skills will be emphasized. Lecture, one hour; laboratory, four hours per week. Prereq: NRC 301, NRC 385, and senior standing.

NRC 477G LAND TREATMENT OF WASTE. (3)

Resource management with emphasis on principles and methods of soil application of wastes (agricultural, industrial, and municipal). Topics include chemical and biological systems; soil and plant management; development, monitoring, and record keeping. Prereq: PLS 366. (Same as PLS 477G.)

NRC 545 RESOURCE AND  
ENVIRONMENTAL ECONOMICS. (3)

This course builds on the principles of economics to analyze the problems in achieving an efficient allocation of resources. It provides the theoretical concepts for evaluating environmental policies and the tools necessary in the application of benefit/cost analysis. Prereq: ECO 201. (Same as AEC 545.)

**NRC 555 GEOGRAPHIC INFORMATION SYSTEMS  
AND LANDSCAPE ANALYSIS. (3)**

An introduction to the concepts and methods of compilation, management, analysis, and display of spatially-referenced data. Lectures will be complemented with computer based laboratory exercises. Lecture, two hours; laboratory, four hours per week. Prereq: Fourth/fifth year LA major, junior/senior, or graduate student, CS 101, FOR 200 or GEO 415, or permission of instructor. (Same as LA 855.)