



# Natural Resource Conservation and Management

College of Agriculture and School of Human Environmental Sciences

The program in Natural Resource Conservation and Management is designed to provide students with the knowledge and skills needed for a career in the rapidly growing fields of environmental science and policy. As the world population grows, and as nations are drawn closer together through technology and trade, the conservation and management of natural resources will become increasingly important to the sustained well-being of all societies. The curriculum provides students with exposure to a broad array of key disciplines involved with natural resources. As a result, graduates have the capacity to integrate different perspectives and diverse bodies of knowledge in dealing with real resource management problems.

All students in the program share a common core of major requirements. This core is designed to provide the student with broad exposure to the technical and socioeconomic dimensions of natural resources and their management. Important components of this core of courses are a required three-week summer camp after the sophomore or junior year and a required internship or research experience. In addition to this core, all students must develop a Concentration Area consisting of at least 18 hours of course work. This Concentration Area allows the student to focus the degree on an area of interest in the technical or policy oriented aspects of natural resource management. These courses must be chosen in consultation with the academic advisor and must be approved by the advisor and the NRCM Steering Committee as part of the plan of study for the student.

Graduates of the Natural Resource Conservation and Management degree program are employed as professionals in both the public and private sectors. Industries which have an impact upon the environment maintain a staff of environmental scientists and technicians to ensure compliance with the standards of our society. Government agencies employ broadly trained natural resource scientists to serve in regulatory or management functions for the resources in their jurisdiction. Additional employment opportunities exist in environmental journalism and education, and with the many non-profit organizations which have environmental concerns. In addition, students in either option are well prepared for graduate programs dealing with resource and environmental issues and in traditional academic disciplines.

### Graduation Requirements

To earn a Bachelor of Science in Natural Resource Conservation and Management, the student must complete at least 120 semester hours with at least a 2.0 grade-point standing. A minimum of 45 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree. In addition to the University Studies Program requirements, the student must complete college, premajor, major and concentration requirements, including an internship or research experience. The student will construct their concentration area with the approval of a faculty advisor in the area of interest.

### Plan of Study

As a Natural Resource Conservation and Management major, you are required to work with your advisor to develop a complete Plan of Study during your sophomore year for your junior and senior years. The plan will be signed by your advisor, approved by the NRCM Steering Committee, and placed in your file in the Office of the Associate Dean for Academic Programs. If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

### University Studies Requirements

Hours

See "University Studies Program" on pages 83-87 of the 2009-2010 UK Bulletin for the complete University Studies requirements.

The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (\*) may also be used to satisfy University Studies requirements.

#### Inference-Logic

MA 123 Elementary Calculus and Its Applications .....	3
or	
MA 113 Calculus I .....	4

#### Natural Sciences

CHE 105 General College Chemistry I .....	3
CHE 107 General College Chemistry II .....	3
CHE 111 Laboratory to Accompany General Chemistry I .....	1
CHE 113 Laboratory to Accompany General Chemistry II .....	2

#### Social Sciences

ECO 201 Principles of Economics I .....	3
One course other than economics from University Studies Program list .....	3

#### USP Electives

BIO 150 Principles of Biology I .....	3
BIO 152 Principles of Biology II .....	3

#### College Required Hours

GEN 100 Issues in Agriculture .....	3
<b>Subtotal: College Required Hours .....</b>	<b>3</b>

#### Premajor Requirements

Hours

*BIO 150 Principles of Biology I .....	3
*BIO 152 Principles of Biology II .....	3
PLS 210 The Life Processes of Plants .....	3
*CHE 105 General College Chemistry I .....	3
*CHE 107 General College Chemistry II .....	3
*CHE 111 Laboratory to Accompany General Chemistry I .....	1
*CHE 113 Laboratory to Accompany General Chemistry II .....	2
*ECO 201 Principles of Economics I .....	3
GLY 220 Principles of Physical Geology .....	4

\*MA 113 Calculus I

or

*MA 123 Elementary Calculus and Its Applications .....	3-4
STA 291 Statistical Method .....	3

\*These courses satisfy USP requirements.

<b>Subtotal: Premajor Hours .....</b>	<b>31-32</b>
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Major Requirements	Hours
AEC 424 Principles of Environmental Law .....	3
AEC 445G Introduction to Resource and Environmental Economics .....	3
FOR 315 Conservation Biology .....	3
FOR 340 Forest Ecology .....	3
NRC 301 Natural Resource Conservation and Management** .....	3
NRC 320 Data Collection Techniques*** .....	3
NRC 380 Analysis of Natural Resource Systems .....	3
NRC 381 Natural Resource Policy Analysis .....	3
NRC 395 Independent Study in Natural Resources† or	
NRC 399 Experiential Education in Natural Resources† .....	3
NRC 471 Senior Problem in Natural Resources .....	3
NRC 555 Geographic Information Systems and Landscape Analysis ...	3
PLS 366 Fundamentals of Soil Science .....	4
plus <b>one</b> of the following:	
NRC 420G Taxonomy of Vascular Plants .....	4
NRC 450G Biogeochemistry .....	3
NRC 455G Wetland Delineation .....	3
NRC 456G Constructed Wetlands .....	3
NRC 477G Land Treatment of Waste .....	3
NRC 545 Resource and Environmental Economics .....	3
<i>**May be used to satisfy the University Writing Requirement.</i>	
<i>***NRC 320 is a three-week summer camp field data collection experience. The student will attend this camp after the sophomore or junior year. This camp exposes the student to a wide range of natural resource techniques and concepts, including aquatic ecology, soil and plant sciences, wildlife and forestry, and waste management.</i>	
<i>†All students must complete either an internship (NRC 399) or a supervised research project (NRC 395). This requirement is designed to give the student real world exposure to natural resource work in their area of interest.</i>	
<b>Subtotal: Major Hours</b> .....	<b>40-41</b>

## Concentration Area

In addition to the major requirements, each student, in consultation with his or her academic advisor, will select a minimum of 18 hours in course work that will constitute the student's Concentration Area. At least 9 of these hours must be at the 300 level or above. This Concentration Area consists of a unique set of courses that allow specialization in a particular area. For example, a student might choose to develop a concentration in Natural Resource Policy, Wildlife Ecology, or Soil and Water Science. Alternatively, the student may wish to minor in another natural resources related program, for example Geology or Economics. If a minor is chosen, those hours will count towards the Concentration Area hours. In either case, the Concentration Area should represent a coherent theme.

The Concentration Area will be developed in the sophomore year as part of the required Plan of Study. This Plan of Study must be approved by the student's advisor, the NRCM Steering Committee, and then put on file in the Office of the Associate Dean for Academic Programs in the College of Agriculture.

**Subtotal: Concentration Area** ..... **18**

## Electives

Free elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

**Subtotal: Electives** ..... **minimum of 6**

**TOTAL HOURS:** ..... **120**