CH. 1. PHILOSOPHY OF THE UNDERGRADUATE PROGRAM

The undergraduate programs of the Department of Forestry and Environmental Resources at NCSU prepare students for professional challenges, personal growth, and a lifetime of service as managers of renewable natural resources. The curricula endeavor to produce well educated forestry and natural resources graduates who have the basic knowledge, skills, flexibility, and attitude needed for successful professional performance. Elective courses allow students to prepare in greater depth for careers in industry, science, private consulting, extension, and public land management.

The Department has five curricula: Environmental Technology and Management (ETM); Forest Management (FOM); Natural Resources - Ecosystem Assessment (NRE); Natural Resources - Policy and Administration (NRP); and Fisheries, Wildlife and Conservation Biology (SFW), which is jointly administered with the Department of Biology, College of Agriculture and Life Sciences. The Environmental Technology and Management curriculum prepares students to collect data on real world environmental problems, analyze and interpret those data, and determine appropriate solutions. The Forest Management curriculum provides the broad based forestry education needed for direct employment into positions in a wide variety of forestry or forestry related organizations. The Natural Resources curricula (NRE, NRP) provide more programs in natural resources management that focus on Ecosystem Assessment and Policy and Administration. The Fisheries, Wildlife and Conservation Biology – Wildlife Concentration (SFW) provides students with a strong base in biological, social, and physical sciences required for career positions in wildlife and management. The Fisheries, Wildlife and Conservation Biology – Fisheries Concentration (SFF) provides students with a strong base in biological, social, and physical sciences required for careers in fisheries resources. Students who have the requisite capabilities in math are encouraged to take the more rigorous math and physics sequence consisting of three semesters of calculus and one or two semesters of calculus-based physics. Flexibility for specialization, planning for graduate study, or dual degrees is provided and encouraged.

The undergraduate program in the Department of Forestry and Environmental Resources is a dynamic one where continuous improvements are designed to respond to changes in the natural resources profession and the needs of employers. The Department of Forestry strives to recruit and retain the highest quality students and faculty. Its academic curricula are enriched by out-of-class contacts among students, faculty and practicing professionals, promoting a sense of professionalism and professional community. Gaining practical experience is encouraged through participation in summer employment and the cooperative education program. For more information visit http://www.cnr.ncsu.edu/fer/

All N.C. State Department of Forestry and Environmental Resources graduates should:

- Understand the social, political, and economic framework in which forestry, environmental sciences, fish and wildlife resources, and natural resources graduates must function;
- Communicate effectively;
- Utilize modern technologies, skills, and tools;
- Appreciate the role of research in furthering the practice of modern natural resource management; and
- Recognize that forestry, environmental sciences, fisheries and wildlife sciences, and natural resources management are important to the long term welfare of society and as managers they must maintain the highest ethical standards.
A. YOUR ADVISOR

Every student is assigned a faculty advisor to guide him/her through their academic years. You are asked to stop by his or her office and introduce yourself if you have missed the department social functions during orientation. During the three-week pre-registration advisory period, please sign up for advising time on the sheet posted on your advisor’s door, and complete the plan of course work prior to your meeting with your advisor. You will not be able to pre-register without your hold released and your advisor is the only authorized person to give it to you.

If you experience mid-semester difficulties or if you need tutoring, contact your advisor. He/she should be able to help and guide you through these difficulties. Similarly, if your interests and goals have changed and you have decided that another advisor might serve you best, please contact the Undergraduate Programs Director, Dr. Gary Blank, for guidance and support.

B. TEACHING AND ADVISING FACULTY

Robert C. Abt
Professor of Forestry B.S. – Georgia Tech. (1976)
3126 Jordan Hall, Ph. 515-7791 M.S. – University of Tennessee (1979)
bob_abt@ncsu.edu Ph.D. – University of CA, Berkeley (1984)

Research Interests: Regional timber supply modeling; Economics of agroforestry; Econometric applications in forestry.

Courses: FOR 334 (Operations Research Applications in NR); NR 400 (Natural Resource Management)

Robert E. Bardon
Professor and Extension Specialist/Forestry B.S. – Iowa State University (1990)
4233 Jordan Hall Annex, Ph. 515-5575 M.S. – Iowa State University (1992)
robert_bardon@ncsu.edu Ph.D. – Iowa State University (1996)

Research Interests: Currently focusing on educating family forest owners on marketing & management & conducting applied work on minimizing conflict between local land use policy & family forest operations.

D. Michael Benson
Professor of Plant Pathology B.S. – Earlham College
Head House Unit 3; Method 208 M.S. – Colorado State University
Ph. 515-3966 Ph.D. – Colorado State University
mike_benson@ncsu.edu
Research Interests: Epidemiology & control of ornamental diseases; Ecology of root-infecting fungi

Courses: FOR (PP) 318 (Forest Pathology)

Gary B. Blank
Director of Undergraduate Programs
Associate Professor of Forestry
5229 Jordan Hall Annex, Ph. 515-7566
gary_blank@ncsu.edu

Research Interests: History of forested environments; Longleaf restoration; Harris Research Tract environmental impact assessment; Science & technical communications development; Environmental education

Courses: FOR 248 (Forest History, Technology and Society); FOR 491 (Sp Topics for NR including Longleaf Pine Field Analysis, NR Teamwork Lab, & Wildlife Habitat Analysis); NR 100 (Introduction to Natural Resources); NR 360 (Internship Experience); NR 484 (Environmental Impact Assessment);

Richard R. Braham
Professor of Forestry
3003 Biltmore, Ph. 515-7568
richard_braham@ncsu.edu

Research Interests: Dendrology; Phytosociology; Ecology & management of protected species; Restoration of longleaf pine & pocosins

Courses: FOR 261 (Forest Communities); FOR 252 (Introduction to Forest Science); FOR 339 (Dendrology)

Robert I. Bruck
Professor of Plant Pathology
2221 Jordan Hall Annex, Ph. 515-2086
bob_bruck@ncsu.edu

Research Interests: Epidemiology of Forest Tree Diseases; Effects of Air Pollution on Forest Ecosystems.

Courses: ET 105 (Introduction to Environmental Regulations); ET 203(Pollution Preventions); ET 330 (Environmental Technology Practicum); ET 402(Solar Voltaic Energy); ET 490 (Seminar in Environmental Technology)
Bronson P. Bullock  
Associate Professor of Forestry, Biometrics & Timber Management  
SAF Student Chapter and Forestry Club Advisor  
B.S. – Rutgers University (1996)  
M.S. – Virginia Tech (1998)  
3102 Jordan, Ph. 513-1248  
bronson_bullock@ncsu.edu  

Research Interests: Forest biometrics; Individual-stem & whole-stand modeling; Stand dynamics; Application of spatial statistics to forest inventory & modeling  

Courses: FOR 172 (Forest Systems Mapping and Mensuration I); FOR 273 (Forest System Mapping and Mensuration II); FOR 374 (Forest Measurements, Modeling and Inventory)  

Heather M. Cheshire  
Associate Professor of Forestry  
5124 Jordan, Ph. 515-3433  
heather_cheshire@ncsu.edu  

Research Interests: Application of remotely sensed data and geographic information systems to the analysis, inventory, and management of natural resources.  

Courses: ET 252 (Introduction to Spatial Technologies); GIS 410 (Introduction to GIS)  

Barbara Conkling  
Researcher & Assistant Professor  
Forest Sciences Laboratory  
Ph. 54-4084  
bconkling@fs.fed.us  

Research Interests: Forest soils and relationships among above and below ground properties and ecology; broad soil chemistry; efficient and useful technology transfer  

Courses: FOR 250 (Professional Development II: Communications in Natural Resources)  

Joseph L. Cox  
College Forest Manager/Lecturer  
5219 Jordan Hall Annex, Ph. 515-7577  
joe_cox@ncsu.edu  

Research Interests: Silviculture (pine and hardwood); Private non-industrial forest management; Control of non-indigenous, invasive species  

Courses: FOR 204 (Silviculture); FOR 422 (Consulting Forestry)
Frederick W. Cubbage
Professor of Forestry  
B.S. – Iowa State University (1974)  
3118B Jordan, Ph. 515-7789  
M.S. – University of Minnesota (1978)  
fred_cubbage@ncsu.edu  
Ph.D. – University of Minnesota (1981)  

Research Interests: Forest resource policy; Timber production & harvesting economics; Forest certification; Sustainable forest management

Christopher S. DePerno
Associate Professor of Fisheries  
B.S. – Central Michigan Univ. (1990)  
and Wildlife  
M.S. – Purdue Univ. (1994)  
Turner House, 110 Brooks Avenue  
Ph.D. – South Dakota Univ. (1998)  
Ph. 513-7559  
chris_deperno@ncsu.edu

Research Interests: Population ecology and management of big game species and predators; Habitat use & selection of big game species and predators; Interactions of predators and prey; Sexual segregation and resource partitioning in ungulates; Animal damage & wildlife education

Courses: FW 311 (Piedmont Wildlife Ecology & Management); FW 313 (Mountain Wildlife Ecology & Management); FW 353 (Wildlife Management)

Ryan Emanuel
Assistant Professor of Forestry  
2217 Jordan Hall Annex, Ph. 513-2511  
M.S. – Univ. of Virginia (2003)  
ryan_emanuel@ncsu.edu  
Ph.D. – Univ. of Virginia (2007)

Research Interests: Echohydrology; Watershed hydrology; Watershed biogeochemistry; Land-atmosphere interaction; Secondary ecosystem succession

Courses: FOR 420 (Watershed & Wetlands Hydrology); NR 421 (Wetland Assessment, Delineation & Regulation)

John L. Frampton
Associate Professor of Forestry  
B.S. – University of Georgia (1978)  
3219 Jordan Hall Annex, Ph. 515-7580  
M.S. – University of Florida (1980)  
john_frampton@ncsu.edu  

Research Interests: Christmas tree genetics; Genetic conservation of Fraser fir; Propagation and use of clones in forest tree species; Host-pest interactions in forest tree species

Courses: FOR 491 (Special Topics in Forestry- Christmas Tree Research)
Douglas J. Frederick  
Professor of Forestry   B.S. – West Virginia University (1967)  
3128 Jordan, Ph. 515-7788 M.S. - West Virginia University (1968)  
doug_frederick@ncsu.edu Ph.D. – University of Idaho (1972)  

Research Interests: Hardwood silviculture & ecology; Restoration ecology; Mitigation, wetlands, biomass, nutrient & energy distribution in hardwood forests of the South; Species selection & silvicultural systems for plantation hardwoods in the Southeast

Courses: FOR 330 (North Carolina Forests); FOR 406 (Forest Inventory, Analysis & Planning); FOR 491 (Special Topics in Forestry-Hardwood Ecology & Management)

Beth Gardner  
Assistant Professor of Quantitative, Wildlife Biology  B.S. – Allegheny College (1999)  
Ph. 513-7558 Ph.D. – Cornell University (2007)  
beth_gardner@ncsu.edu  

Research Interests: Development of spatial capture-recapture models; Hierarchical models of animal abundance & occurrence (e.g., site-occupancy models); Bayesian analysis in ecology, spatial modeling

Courses: FW 453(Principles of Wildlife Science)

Barry Goldfarb  
Professor of Forestry, Head, Department of Forestry and Environmental Resources  B.S. – Southern Oregon St. College (1983)  
3119 Jordan, Ph. 515-7789 M.S. – Oregon St. University (1986)  
barry_goldfarb@ncsu.edu Ph.D. – Oregon St. University (1990)  

Research Interests: Molecular & genetic control of root systems in forest trees; Vegetative propagation of forests

Courses: NR 100 (Introduction to Natural Resources)

George R. Hess  
Associate Professor of Forestry  B.A. – Columbia College (1978)  
5233 Jordan Hall Annex, Ph. 515-7437 B.S. – Columbia College (1979)  
george_hess@ncsu.edu Ph.D. – N.C. State University (1994)  

Research Interests: Biomathematics; Biometrics; Ecology; Natural resource management; Conservation; Spatially explicit population modeling

Courses: FW 495 (Conservation Biology); NR 300 (Natural Resource Measurements); NR 491(Natural Resources Teamwork Lab); Effective Scientific Posters
Stephanie Jeffries
Assistant Professor              B.S. – Univ. of South Carolina (1993)
3113 Jordan Hall                                                      M.S. – Bypassed and went straight for Ph.D.
Ph. 515-54633                            Ph.D. – NCSU (2002)
steph_jeffries@ncsu.edu

Research Interests: Ecology, patterns and processes of forested ecosystems, forest succession, dendrology, conservation biology and communicating science to broad audiences.

Courses: NR 301 (Practicum for Professional Development I); NR 360 (Internship Experience); NR 401 (Practicum for Professional Development II); NR 460 (Renewable Natural Resource Management and Policy)

Siamak Khorram
Professor of Forestry and of Electrical and Computer Engineering and Director, Center for Earth Observation 5114 Jordan, Ph. 515-3430
siamak_khorram@ncsu.edu

Research Interests: Remote sensing; Image processing; Geographic information systems & their applications to environment, engineering, and natural resources inventory, management, and monitoring.

Courses: FOR 353 (Air Photo Interpretation and Photogrammetry)

John King
Assistant Professor              B.S. – Stockton State College (1985)
1019 Biltmore Hall; Ph. 513-7855                                                      M.S. – Duke University (1991)
john_king@ncsu.edu                                  Ph.D. – Duke University (1997)

Research Interests: Global environmental change; Forest ecophysiology; Forest carbon; Nutrient cycling

Courses: FOR 303 (Silvics and Forest Tree Physiology)

Tom Kwak
Unit Leader, Associate Professor              B.S. – University of Illinois (1981)
NC Coop. Fish and Wildlife Res. Unit                                                      M.S. – University of Illinois (1983)
201 David Clark Labs, Ph. 513-2696                                                      Ph.D. – University of Minnesota (1993)
tkwak@ncsu.edu

Research Interests: Fish ecology, impacts of habitat and environmental alterations, biotic interactions. The main emphasis of this work has been identifying physical and biotic factors that influence the ecological success of fishes at different spatial, temporal, and organizational scales
and quantifying such relationships. This includes studies of population and production dynamics, habitat assessment and manipulation, food web functions, density-dependent effects, and simulation modeling. The ultimate goal of this effort is to incorporate fish ecology into sound ecosystem and fisheries conservation and management.

**Courses:** FW 312 (Fisheries Technique & Management); FW 495A (Special Topics in Fisheries & Wildlife Science)

**Terrie H. Litzenberger**
Lecturer
B.S. Western Carolina University (1980)
2227 Jordan Hall Annex, Ph. 515-7581
[terrie_litzenberger@ncsu.edu](mailto:terrie_litzenberger@ncsu.edu)

**Courses:** ET 201 (Water Quality- Lab I) ; ET 202 (Plants, Soils & Natural Systems- Lab II) ; ET 302 (Indoor Air Quality- Lab IV)

**Melissa McHale**
Assistant Professor of Urban Ecology
B.S. – Rutgers University (1998)
Ph.D. – Colorado State Univ. (2007)
5225 Jordan Hall Annex, Ph 515-7579
[melissa_mchale@ncsu.edu](mailto:melissa_mchale@ncsu.edu)

**Research Interests:** Carbon dynamics in urban systems, urbanization effects on nutrient cycling, ecosystem service tradeoffs, social drivers of ecosystem processes, spatial & temporal dynamics of urbanization, policy driven & multi-disciplinary approaches to urban ecological analyses.

**Courses:** FOR 220 (Urban Forestry)

**Steven E. McKeand**
Professor of Forestry
Director of Tree Improvement Program
1019 Biltmore Hall, Ph. 515-6073
B.S. – Purdue University (1976)
M.S. – Purdue University (1978)
Ph.D. – N.C. State University (1983)
[steve_mckeand@ncsu.edu](mailto:steve_mckeand@ncsu.edu)

**Research Interests:** Genetics and breeding of forest trees; Seed orchard management; Tree nutrition and genetics; Vegetative propagation; Propagation effects on vegetative and reproductive growth.

**Courses:** FOR 411 (Forest Tree Genetics & Biology)

**Mark A. Megalos**
Extension Forestry Specialist
4219 Jordan Hall Annex, Ph 513-1202
B.S. – Rutgers University (1981)
M.S. - N.C. State University (1986)
[mark_megalos@ncsu.edu](mailto:mark_megalos@ncsu.edu)

**Research Interests:** Landowner incentives; Programmatic impacts; Biomass, conservation strategies
Extension Responsibilities: Forest management: Taxation; Herbicides; Reforestation, Conservation easements

Christopher Moorman
Associate Professor
Coordinator of the Fish & Wildlife Conservation Biology Program
Turner House, Ph. 515-7586
chris_moorman@ncsu.edu

Research Interests: Effect of forest management on wildlife habitat; Habitat selection of non-game wildlife with emphasis on birds; Environmental education; Urban wildlife management

Courses: FOR 264 (Forest Wildlife); FW 404 (Forest Wildlife Management); FW 492 (External Learning Experience); FW 493 (Special Problems in Fisheries & Wildlife Sciences)

Stacy Nelson
Associate Professor
5123 Jordan Hall, Ph. 513-7162
stacy_nelson@ncsu.edu

Research Interests: Using remote sensing and GIS technologies to address both regional and local-scale questions of land use/cover change and also the impact of this change on inland lakes, wetland, and coastal ecosystems, as well their associated effects on water quality and fisheries ecology.

Courses: NR 532 (Principles of Geographic Information Science); NR 533 (Application Issues in Geographic Information Systems)

Elizabeth G. Nichols
Assistant Professor
2225 Jordan Hall Annex, Ph. 513-4832
elizabeth_nichols@ncsu.edu

Research Interests: Pollutant bioavailability; Contaminated sediments; Phytoremediation

Courses: ET 310 (Environmental Monitoring and Analysis); ET 460 (Practice of Environmental Technology); ET 470 (Environmental Forensics)
Larry Nielsen
Professor of Natural Resources  B.S. – Univ. of Illinois (1970)
3118 A Jordan Hall  M.S. - Univ. of Missouri (1974)
Phone 515-5314  Ph.D. – Cornell University (1978)
larry_nielsen@ncsu.edu

Research Interests: Sustainable natural resource management; History & philosophy of natural resource management; Ecosystem management

Courses: FW 221 (Conservation of Natural Resources)

M. Nils Peterson
Assistant Professor, Fisheries and Wildlife Sciences, Human Dimensions  B.S. – Texas A & M (2000)
nils_peterson@ncsu.edu  Ph.D. - Michigan State Univ. (2007)

Research Interests: Policy analysis; Environmental attitude and behavior assessment; Assessing impacts of human behaviors on endangered wildlife populations

Courses: FW  403 (Urban Wildlife Management); FW 411( Human Dimensions of Wildlife & Fisheries Management)

Joseph P. Roise
Professor of Forestry, and Operations Research  B.S. – Southern Conn. St. University (1973)
3114 Jordan, Ph. 515-7783  M.S. – Colorado State University (1980)
joe_roise@ncsu.edu  Ph.D. – University of Washington (1984)

Research Interests: Management science/operations research in forestry and forest products industry; optimization of simulated processes; Management decision support systems; Integrated planning.

Courses: FOR 334 (Operations Research Applications in Natural Resources); FOR 405 (Forest Management); FOR 434 (Forest Operations and Analysis)

Ted Shear
Associate Professor of Forestry  B.S. – Louisiana State University (1980)
3124 Jordan, Ph. 513-7794  Ph.D. – NC State University (1985)
ted_shear@ncsu.edu

Research Interests: Restoration ecology; Water quality; Urban forestry

Courses: FOR 260 (Forest Ecology)
Erin O. Sills
Associate Professor     B.A. – Princeton University (1990)
erin_sills@ncsu.edu    Ph.D. – Duke University (1998)
Research Interests:  International forestry; Natural resource economics; Management and valuation of tropical forests for non-timber products and services.
Courses: FOR 319 (Forestry Economics); FOR 414 (World Forestry); NR 491 (Forest & Soil Ecology)

Jose Stape
Associate Professor                B.S.– Univ. of Sao Paulo, Brazil (1985&1986)
3108 Jordan Hall                                                M.S.  – Univ. of Sao Paulo, Brazil (1990)
Ph. 513-4041                       Ph.D. – Colorado State Univ. (2002)
jlstape@ncsu.edu
Research Interests:  Silvicultural recommendations for forest plantations (Pinus, Eucalyptus) including site-preparation, fertilization, spacing, thinning and rotation length. Factors limiting forest productivity and controlling C allocation. Use of processed-based models to address scientific questions regarding forest management.
Courses: FOR 304 (Theory of Silviculture)

Anne Stomp
Associate Professor of Forestry        B.S.   – Univ. of Connecticut (1973)
3019 Biltmore Hall                                                  M.S.  –  Univ. of Connecticut (1981)
Ph. 515-7574                             Ph.D. – NCSU (1985)
anne_stomp@ncsu.edu
Research Interests:  Forest biology & biotechnology; gene transfer mechanisms in loblolly pine; growth and developmental biology of trees, tissue culture, gene transfer & molecular biology; use of biotechnology for environmental remediation
Courses: FOR 150 (Professional Development I: Critical Thinking in Natural Resources)

Linda R. Taylor
Lecturer                                                                     B.S. – Stanford University (1988)
2223 Jordan Hall Annex, Ph. 513-3972                    M.Sc. – UNC – Chapel Hill (1992)
LR_Taylor@ncsu.edu
Research Interests:  Environmental regulations, hazardous waste remediation, industrial health and safety.
Courses: ET 301 (Hazardous Waste Operations and Emergency Response- Lab III); ET 303 (Occupational Safety and Health); ET 401 Hazardous Waste and Groundwater Sampling)
Sarah T. Warren  
Associate Professor  
Director of Graduate Programs  
3118 Jordan, Ph. 515-7996

Research Interests: Rural development forestry; Limited-resource landowners, property & land tenure; Urban forestry

Courses: ET 410 (Toxic Substances & Society); FOR 450 (Professional Development IV: Leadership); NR 303 (Humans & the Environment); NR 406 (Conservation of Biological Diversity)

Ross Whetten  
Associate Professor  
5231 Jordan Addition, Ph. 515-7578

Research Interests: Biochemistry & molecular biology of tree growth & development

Courses: FOR 350 (Professional Development III: Ethical Dilemmas in NR Management); FOR 411 (Forest Tree Genetics & Biology)
C. OTHER PEOPLE YOU NEED TO KNOW IN THE COLLEGE OF NATURAL RESOURCES

Office of Academic Affairs – College of Natural Resources

극 Dr. Adrianna G. Kirkman, Associate Dean for Academic Affairs
2018 Biltmore, Ph. 515-6191

• Responsible for administration of all academic programs in the College of Natural Resources. Signs all forms requiring approval of the College Dean.

극 Mrs. Yvonne Lee, Student Services Manager
2018 Biltmore, Ph. 515-5741

• Provides guidance and advice on all matters relating to academic programs. Assistant to Dr. Kirkman

극 Mrs. Angie Barefoot, Student Services Assistant
2018 Biltmore, Ph. 513-7487

• Assistant to Mrs. Lee and Dr. Kirkman

• Handles student forms and class scheduling

극 Mrs. Katie Lucey, Student Services Assistant
2018 Biltmore, Ph. 513-7616

• Assistant to Mrs. Lee and Dr. Kirkman

Department of Forestry and Environmental Resources

극 Dr. Gary Blank, Director, Undergraduate Programs
5229 Jordan Hall Annex, Ph. 515-7566

• Responsible for administration of the undergraduate programs in the Department of Forestry and Environmental Resources, evaluates transfer transcripts, handles undergraduate academic requests requiring departmental approval

극 Mrs. Eileen Broderick, Administrative Secretary
3122 Jordan, Ph. 515-2893

• Administrative Secretary to Head of Department, Dr. Goldfarb

극 Ms. Sydna Willis, Undergraduate Student Services Assistant
3136H Jordan Hall, Ph. 515-7560
• Assists Dr. Blank with all aspects of administering the undergraduate programs in the Department of Forestry and Environmental Resources

Ms. Sarah Slover, Graduate Student Services Assistant
3136 Jordan, Ph. 515-7563

• Assists Dr. Warren in administering the graduate programs

Mrs. Lisa Schabenberger, Program Coordinator
3127 Jordan, Ph. 513-7368

• Assists Dr. Goldfarb and others in the department with special programs

Mrs. Christi Standley, Undergraduate Program Coordinator
3136-C Jordan, Ph. 513-2582

• Assists Dr. Blank in the undergraduate programs in the Department of Forestry and Environmental Resources

Ms. Carolina Thomson, Administrative Assistant
3120 Jordan, Ph. 515-2892

• Assists Eileen and handles students’ employment time sheets and checks
D. UNDERGRADUATE PLANS OF STUDY

Upon admission as a degree-seeking student, a NC State undergraduate student is expected to make satisfactory progress in a planned and deliberate way toward graduation. This expectation of satisfactory progress translates into the following University minimum requirements:

A. Development and registering of a Plan of Study that serves as a planning tool for completing degree requirements for the major(s) in which the student is matriculated, or in the case of the student enrolled in the First Year Collage (and other undeclared or undesignated programs), expects to matriculate, or transfer. The Plan of Study can include plans for tailoring the academic education, study abroad and other specialized academic opportunities should be reflected in the registered Plan of Study.

B. Enrollment in course work consistent with the student’s Plan of Study.

C. Continuous full-time enrollment (a minimum of 12 credit hours) during consecutive semesters (i.e. Fall, Spring) until graduation, and successful completion of at least 24 credit hours of NC State or transferable course work each academic year, unless otherwise justified by an approved Plan of Study.

D. Matriculation into a degree program by the beginning of classes in the first semester that the student has junior status (i.e. 60 credit hours earned-criteria established in the Classification of Undergraduate Degree Students regulation).
CH. 3. THE UNDERGRADUATE CURRICULA

A. The Curricula

The course sequences for four-year students (those beginning study as freshmen) are shown in the curriculum outlines in this section. The courses of the curricula are organized in a logical sequence with general education courses in the early semesters followed by the specific topical courses in the later semesters. Students who are academically well prepared and who take full course loads each semester will complete the degree in four years. Students who take less than full loads, who must take remedial courses, or retake failed courses can expect to take longer than four years to complete the curriculum. IT IS THE STUDENT’S RESPONSIBILITY TO KNOW THE CURRICULUM AND TO TAKE THE COURSES IN THE PROPER SEQUENCE. Check the Department’s course descriptions on the web at:

http://www.cnr.ncsu.edu/fer/under/degprogs.html

and be familiar with required prerequisite courses that must be completed prior to taking a particular course. Important prerequisite sequences are outlined later in this chapter.

The Forest Management (FOM) curriculum is a professional curriculum accredited by the Society of American Foresters (SAF). Its structure is based on University general education requirements, the subject matter guidelines of the SAF accreditation criteria, input from employers, and the knowledge and experience of the faculty. Graduates are prepared for public and private professional forestry positions as well as a variety of jobs closely related to forestry.

The Natural Resources (NRE, NRP) curricula in the Forestry Department are part of a campus-wide series of NR curricula that have a common general education core. That core has a base of communications, math, science, and humanities/social sciences that is similar to the Forest Management curriculum. The curriculum in Natural Resources - Policy and Administration (NRP) is a broad-based one with an in-depth series of courses in economics, government and public administration, and natural resource management. The curriculum will provide the kind of broadly trained managers needed by many public agencies and private organizations in the natural resources arena. Natural Resources - Ecosystem Assessment (NRE) is a more technically oriented curriculum that provides in-depth study in analysis of ecosystem components and also in natural resource management. This curriculum will produce the graduates needed by many public agencies and private organizations that are involved in ecosystem analysis and environmental regulations.

The Fisheries, Wildlife and Conservation Biology curricula (SFF-Fisheries concentration; SFW-Wildlife concentration; & Conservation Biology concentration) are professional curricula that build on a strong base in biological, physical and social sciences to prepare graduates to solve problems associated with consumptive and non-consumptive uses of fisheries and wildlife resources. Flexibility in the curricula allows the student to meet academic requirements for certification as Wildlife Biologist by The Wildlife Society. Graduates are prepared for positions with natural resource agencies and conservation education organizations, and for further graduate studies.
The Environmental Technology and Management (ETM) curriculum focuses on the assessment of impacts to the environment and the technology for managing those impacts. This curriculum prepares students to collect data on real world environmental problems, analyze and interpret those data, and determine appropriate solutions. Students receive a broad education in the natural sciences, humanities and social sciences, communications, and computer operation to acquire the technical knowledge and skills needed for sound environmental assessment and management. Many Environmental Technology and Management courses emphasize hands-on training with state-of-the-art monitoring equipment. A practicum to obtain actual working-world experience is required. Career opportunities include technical positions with: firms that offer environmental services; manufacturing companies that are required to maintain sophisticated environmental networks; consulting and audit firms that perform independent environmental audits; and state and federal regulatory agencies.
### College of Natural Resources, NCSU
#### Forestry and Environmental Resources Department
#### Forest Management
#### Effective: 07/2009

#### FRESHMAN YEAR

<table>
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<th>SPRING SEMESTER</th>
<th>CREDITS</th>
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<tr>
<td>FOR (WPS) 202 Wood Anatomy &amp; Properties¹</td>
<td>3</td>
<td>CH 101 Chemistry – A Molecular Science</td>
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<td>MA 114 Intro. Finite Math with Applications</td>
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<td>CH 102 General Chemistry Lab</td>
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<td>NR 100 Introduction to Natural Resources¹</td>
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<td>ENG 101 Academic Writing &amp; Research¹</td>
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<td>PB 200 Plant Life</td>
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<td>FOR 150 Prof. Development I: Critical Thinking¹</td>
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<td>GEP Humanities Elective*</td>
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<td>MA 121 Elements of Calculus</td>
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<td></td>
<td></td>
<td>GEP Interdisciplinary Perspectives Elective*</td>
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**Total:** 15

### SOPHOMORE YEAR

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<thead>
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<th>CREDITS</th>
<th>SPRING SEMESTER</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>CH 201/202 Chemistry – Quant. Science &amp; Lab or PY 211 College Physics I</td>
<td>4</td>
<td>ARE 201 Intro. Agric. &amp; Resource Economics</td>
<td>3</td>
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<tr>
<td>FOR 172 Forest Sys. Mapping &amp; Mensuration I¹</td>
<td>2</td>
<td>FOR 250 Prof. Development II: Communications¹</td>
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<td>FOR 339 Dendrology¹</td>
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<td>FOR 260 Forest Ecology¹</td>
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<td>PE 1** Fitness and Wellness Elective</td>
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<td>SSC 200 Soil Science</td>
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<tr>
<td>Advised Elective²</td>
<td>3</td>
<td>ST 311 Introduction to Statistics</td>
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**Total:** 14

### SUMMER CAMP

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<tbody>
<tr>
<td>FOR 204 Silviculture¹</td>
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<td>FOR 261 Forest Communities¹</td>
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<td>FOR 264 Forest Wildlife¹</td>
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<td>FOR 265 Fire Management¹</td>
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<td>FOR 273 Forest Sys. Mapping &amp; Mensuration II¹</td>
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**Total:** 9

### JUNIOR YEAR

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<tr>
<th>FALL SEMESTER</th>
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<tr>
<td>FOR 303 Silvics &amp; Forest Tree Physiology¹</td>
<td>3</td>
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<td>FOR 319 Forest Economics¹</td>
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<td>FOR 304 Theory of Silviculture¹</td>
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<td>FOR 334 Operations Research Applications¹</td>
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<td>FOR 350 Prof. Development III: Ethics¹</td>
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<td>FOR 353 Air Photo Interp. &amp; Photogrammetry¹</td>
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<td>FOR (ENT) 402 Forest Entomology¹</td>
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<td>FOR 374 Forest Meas., Modeling &amp; Inventory¹</td>
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<td>or FOR (PP) 318 Forest Pathology¹</td>
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<td>GEP Humanities Elective</td>
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<td>Advised Elective²</td>
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**Total:** 16

### SENIOR YEAR

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<td>FOR (FW) 404 Forest Wildlife Management¹</td>
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<td>FOR 406 Forest Inventory Analysis &amp; Planning¹</td>
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<td>FOR 405 Forest Management¹</td>
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<td>GEP Additional Breadth Elective*</td>
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<td>GEP Interdisciplinary Perspectives Elective*</td>
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<td>Technical Elective³</td>
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**Total:** 16

Minimum Credit Hours Required for Graduation: 127
Major/Program Footnotes:

¹A minimum grade of C- is required.
²Advised Electives. Select any 200-level or higher course not otherwise required from among the following possibilities: (1) courses with the prefix ACC, ARE, BAE, CH, CS, EC, ENT, FOR, FW, HS, MA, NR, PB, PP, PY, ST, SSC, WPS, or ZO; (2) PRT 462; (3) any FL* course not needed to fulfill the language co-requisite; or (4) courses taken in partial fulfillment of an academic minor. All other courses must be approved by the student’s faculty advisor.
³Technical Electives. Select any 200-level or higher course not otherwise required from among the following prefixes: FOR, FW, or NR.

General Education Program (GEP) requirements and GEP Footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.
University approved GEP course lists for each of the following categories can be found at [http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html](http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html).

Mathematical Sciences (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 114, MA 121

Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/102, PB 200

Humanities (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ENG 331 or ENG 332 or ENG 333. Select an additional course with a prefix other than ENG.

Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: (ARE 201 or EC 205) and NR 460

Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)

Interdisciplinary Perspectives (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:

Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

U.S. Diversity (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:

Global Knowledge (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:

Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.
### FRESHMAN YEAR

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<td>BIO 1 81: EEB Intro Biology</td>
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<td>ENG 101 Acad. Writing &amp; Research</td>
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<td>MEA 101 Geology I: Physical</td>
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<td>MA 131 Calculus for Life &amp; Mgmt Sci A</td>
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<td>MEA 110 Geology I Lab</td>
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<td>NR 100 Introduction to Natural Resources</td>
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<td>MA 231 Calculus for Life &amp; Mgmt Sci B</td>
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<td>FOR 150 Critical Thinking</td>
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<td>ARE 201 Intro to Agric &amp; Resource Econ</td>
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<td>or EC 201 Principles of Microeconomics</td>
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### SOPHOMORE YEAR

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<tr>
<td>PY 211 College Physics I</td>
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<td>FOR 252 Introduction to Forest Science</td>
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<td>CH201 Chemistry-A Quantitative Science</td>
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<td>CH 202 Quantitative Chemistry Lab</td>
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<td>COM 110 Public Speaking or</td>
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<td>FOR 339 Dendrology</td>
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<td>COM 112 Interpersonal Comm.</td>
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<td>PS 201 Intro to American Government or</td>
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<td>General Education Elective</td>
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### JUNIOR YEAR

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<tr>
<td>PB 360 Intro to Ecology</td>
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<td>ARE (EC) 336 Intro Res &amp; Environ. Economics</td>
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<td>PB 365 Ecology Lab</td>
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<td>ENG 333 Comm. For Sci &amp; Research</td>
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<td>NR301 Practicum for Prof. Development I</td>
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<td>NR 300 Natural Resource Measurements</td>
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<td>FOR353 Air Photo Interpret &amp; Photogram.</td>
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<td>General Education Elective</td>
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<td>ST 311 Intro to Statistics</td>
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### SENIOR YEAR

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<tr>
<td>NR 401 Practicum for Prof. Development II3</td>
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<td>NR 400 Natural Resources Management</td>
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<td>NR 460 Renew Resource Pol. &amp; Mgmt.</td>
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<td>General Education Electives</td>
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<td>NR 484 Practice of Environ Impact Assessment</td>
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<td>FW 353 Wildlife Management or</td>
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<td>FW404 Forest Wildlife Management</td>
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<td>SUMMER</td>
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Minimum Credit Hours Required for Graduation: 126

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Footnotes:

1. 
2. 
3. 

20
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found here: http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html.

**Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Curriculum requirements automatically fulfill this category.

**Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Curriculum requirements automatically fulfill this category.

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Curriculum requirements in economics and political science automatically fulfill this category.

**Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

**Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)

- Humanities/Social Sciences/Visual and Performing Arts

**Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list. ARE 336 meets 3 hours of this requirement.

**Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

**U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

**Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.

**Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation

Technical Electives- 21 credit hours: Ecosystem Assessment students select 15 credit hours from the resource science courses and 6 credit hours from the management science courses shown on the following table, selecting at least one course from each of the resource science categories.

A professional development program integrated into the curriculum consists of a required summer work experience between the junior and senior years and two professional development courses. Students take NR 301 in the junior year to prepare for NR 360 and seek a summer job for the following summer and will participate in presentations made by seniors enrolled in NR 401 that focus on the previous summer's work experience. A member of the teaching faculty will assist students in finding an appropriate summer job. NR 401 for the seniors will consist of written and oral reports on summer work experiences and professional development activities.
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<th>Flora &amp; Fauna</th>
<th>Earth Sciences</th>
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<tbody>
<tr>
<td><strong>CS 414 Weed Science</strong></td>
<td><strong>ENT 425 General Entomology</strong></td>
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<tr>
<td><strong>FOR 303 Silvics &amp; Forest Tree Phys.</strong></td>
<td><strong>FOR 402 Forest Entomology</strong></td>
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<td><strong>FOR 318 Forest Pathology</strong></td>
<td><strong>FW 404 Forest Wildlife Mgmt.</strong></td>
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<td><strong>FOR 411 Forest Tree Genetics/Biology</strong></td>
<td><strong>FW 420 Fisheries Science</strong></td>
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<td><strong>FOR 339 Dendrology</strong></td>
<td><strong>MEA 220 Marine Biology</strong></td>
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<tr>
<td><strong>PB 222 Kingdom of Fungi</strong></td>
<td><strong>BIO 441/2 Biology of Fishes/Lab</strong></td>
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<td><strong>PB 400 Plant Structure/Diversity</strong></td>
<td><strong>ZO 501 Ornithology</strong></td>
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<td><strong>PB 403 Systematic Botany</strong></td>
<td><strong>ZO 509 Eco. of Stream Invertebrates</strong></td>
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<td><strong>PB 405 Wetland Plants</strong></td>
<td><strong>ZO 586 Aquaculture I</strong></td>
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<td><strong>PB 421 Plant Physiology</strong></td>
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**BIO 419 Limnology**

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<th>Management</th>
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<td><strong>ACC 200 Managerial Accounting</strong></td>
<td><strong>ARE 301 Intermediate Microecon.</strong></td>
<td><strong>ARE 309 Envir. Law &amp; Econ. Policy</strong></td>
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<td><strong>BUS 455 Quant. Methods for Mgmt.</strong></td>
<td><strong>ARE 436 Environmental Economics</strong></td>
<td><strong>BUS 305 Legal &amp; Regulatory Envir.</strong></td>
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<td><strong>FOR 248 Forest Hist., Tech, and Soc.</strong></td>
<td><strong>EC 348 Intro. to Intl Economics</strong></td>
<td><strong>FOR 414 World Forestry</strong></td>
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<tr>
<td><strong>LAR 430 Site Planning</strong></td>
<td><strong>EC 410 Public Finance</strong></td>
<td><strong>FW 411 Human Dimensions &amp; Wildlife</strong></td>
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<td><strong>NR 350 Sustainable Use of Natural Resources</strong></td>
<td><strong>EC 448 International Trade</strong></td>
<td><strong>LAR 443 Landscape History</strong></td>
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<td><strong>PRT 350 Outdoor Recreation Mgmt.</strong></td>
<td><strong>FOR 319 Forestry Economics</strong></td>
<td><strong>NR 406 Conservation of Biological Div.</strong></td>
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<td><strong>PRT 451 Rec. Planning/Facility Development</strong></td>
<td><strong>FOR 512 Forest Economics</strong></td>
<td><strong>PS 201 Intro. to American Government</strong></td>
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<td><strong>PRT 462 Introduction to GIS</strong></td>
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<td><strong>PS 312 Intro. to Public Administration</strong></td>
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<td><strong>PS 336 Global Environmental Politics</strong></td>
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### Freshman Year

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<td>CH 102 General Chemistry Lab</td>
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<td>ENG 101 Acad. Writing &amp; Research</td>
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<td>MEA 101 Geology I: Physical</td>
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<td>MA 131 Calculus for Life &amp; Mgmt Sci A</td>
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<td>NR 100 Introduction to Natural Resources</td>
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<td>MA 231 Calculus for Life &amp; Mgmt Sci B</td>
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<td>FOR 150 Critical Thinking</td>
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<td>ARE 201 Intro to Agric &amp; Resource Econ or</td>
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### Sophomore Year

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<tr>
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<td>ARE (EC) 336 Intro Res &amp; Environ. Economics</td>
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<td>ENG 333 Comm. For Science &amp; Research</td>
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<td>NR 301 Practicum for Prof. Development I</td>
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<td>FOR 353 Air Photo Interpret &amp; Photogram.</td>
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### Senior Year

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<td>NR 400 Natural Resources Management</td>
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<tr>
<td>NR 460 Renew Resource Pol. &amp; Mgmt.</td>
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<td>3</td>
<td>General Education Electives 1</td>
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<td>NR 484 Practice of Environ Impact Assessment</td>
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<td>4</td>
<td>Technical Electives 2</td>
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<td>FW 353 Wildlife Management or</td>
<td></td>
<td>3</td>
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<tr>
<td>FW 404 Forest Wildlife Management</td>
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<td>4</td>
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<tr>
<td>Technical Elective 2</td>
<td></td>
<td></td>
<td><strong>Minimum Credit Hours Required for Graduation:</strong></td>
<td><strong>127</strong></td>
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Minimum Credit Hours Required for Graduation: 127
General Education Program (GEP) requirements and GEP Footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.
University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html.

Mathematical Sciences (6 credit hours – one course with MA or ST prefix)
Curriculum requirements automatically fulfill this category.

Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
Curriculum requirements automatically fulfill this category.

Humanities (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:

Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
Curriculum requirements in economics and political science automatically fulfill this category.

Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)
Choose from the University approved GEP Interdisciplinary Perspectives course list. ARE 336 meets 3 hours of this requirement.

Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

U.S. Diversity (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

Global Knowledge (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.

Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.

Technical Electives- 26 credit hours: Policy and Administration students select 9 credit hours from the resource science courses and 17 credit hours from the management science courses shown on the following table, selecting at least one course from each of the management science categories.

A professional development program integrated into the curriculum consists of a required summer work experience between the junior and senior years and two professional development courses. Students take NR 301 in the junior year to prepare for NR 360 and seek a summer job for the following summer and will participate in presentations made by seniors enrolled in NR 401 that focus on the previous summer’s work experience. A member of the teaching faculty will assist students in finding an appropriate summer job. NR 401 for the seniors will consist of written and oral reports on summer work experiences and professional development activities.
### TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>Flora</th>
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<th>Earth Sciences</th>
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<tbody>
<tr>
<td>CS 414 Weed Science</td>
<td>BIO 441/2 Biology of Fishes/Lab</td>
<td>BIO 419 Limnology</td>
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<tr>
<td>FOR 303 Silvics &amp; Forest Tree Phys.</td>
<td>ENT 425 General Entomology</td>
<td>FOR 420/520 Watershed &amp; Wetlands Hydrology</td>
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<tr>
<td>FOR 318 Forest Pathology</td>
<td>FOR 402 Forest Entomology</td>
<td>GEO 200 Principles of Geography</td>
</tr>
<tr>
<td>FOR 339 Dendrology</td>
<td>FW 353 Wildlife Management</td>
<td>MEA 200/210 Intro. Oceanography/Lab</td>
</tr>
<tr>
<td>FOR 411 Forest Tree Genetics/Biology</td>
<td>FW 404 Forest Wildlife Mgmt.</td>
<td>MEA 250/251 Intro. Coastal Environments &amp; Lab</td>
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<tr>
<td>PB 222 Kingdom of Fungi</td>
<td>FW 420 Fisheries Science</td>
<td>MEA 300 Environmental Geography</td>
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<tr>
<td>PB 400 Plant Structure/Diversity</td>
<td>MEA 220 Marine Biology</td>
<td>NR 421 Wetland Assessment, Delineation and Regulation</td>
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<tr>
<td>PB 403 Systematic Botany</td>
<td>ZO 501 Ornithology</td>
<td>SSC 361 Role of Soils in Envir. Mgmt.</td>
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<tr>
<td>PB 405 Wetland Plants</td>
<td>ZO 509 Eco. of Stream Invertebrates</td>
<td>SSC 452 Soil Classification</td>
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<tr>
<td>PB 421 Plant Physiology</td>
<td>ZO 586 Aquaculture I</td>
<td>SSC 461 Soil Phys. Properties &amp; Plant Growth</td>
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<td>SSC 470 Wetland Soils</td>
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### MANAGEMENT SCIENCES

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<tr>
<th>Management</th>
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<tr>
<td>ACC 200 Managerial Accounting</td>
<td>ARE 301 Intermediate Microecon.</td>
<td>ARE 309 Envir. Law &amp; Econ. Policy</td>
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<tr>
<td>BUS 455 Quant. Methods for Mgmt.</td>
<td>ARE 436 Environmental Economics</td>
<td>BUS 305 Legal &amp; Regulatory Envir.</td>
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<tr>
<td>FOR 248 Forest Hist., Tech, and Soc.</td>
<td>EC 348 Intro. to Int'l Economics</td>
<td>FOR 414 World Forestry</td>
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<tr>
<td>LAR 430 Site Planning</td>
<td>EC 410 Public Finance</td>
<td>FW 411 Human Dimensions &amp; Wildlife</td>
</tr>
<tr>
<td>NR350 Sustainable Use of Natural Resources</td>
<td>EC 448 International Trade</td>
<td>LAR 443 Landscape History</td>
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<tr>
<td>PRT 350 Outdoor Recreation Mgmt.</td>
<td>FOR 319 Forestry Economics</td>
<td>NR 406 Conservation of Biological Div.</td>
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<tr>
<td>PRT 451 Rec. Planning/Facility Development</td>
<td>FOR 512 Forest Economics</td>
<td>PS 201 Intro. to American Government</td>
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<tr>
<td>PRT 462 Introduction to GIS</td>
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<td>PS 202 State &amp; Local Government</td>
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<td>PS 312 Intro. to Public Administration</td>
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<td>PS 320 US Environmental Law &amp; Politics</td>
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<tr>
<td></td>
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<td>PS 336 Global Environmental Politics</td>
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<tr>
<td></td>
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<td>PS 401 American Parties &amp; Interest Groups</td>
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<tr>
<td>NR 100 Introductions to Natural Resources</td>
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<td>CH 101 Chemistry- A Molecular Science</td>
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<td>BIO 181 Introductory Biology, Ecology, Evolution, and Biodiversity</td>
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<td>CH 102 General Chemistry Lab</td>
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<td>GEP Requirement Additional Breadth Elective*</td>
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<td>ES 100 Intro to Environmental Sciences</td>
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<td>ENG 101 Academic Writing &amp; Research*</td>
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<td>ET 105 Intro to Environmental Regulations</td>
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<tr>
<td>MA 121 Elements of Calculus or MA 131 Calculus for Life/Mgmt. Sci. A</td>
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<td>EC 201 Principles of Microeconomics or EC 205 Fundamentals of Economics or ARE 201 Intro to Ag &amp; Resource Economics*</td>
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<tr>
<td>GEP Requirement Humanities Elective*</td>
<td>3</td>
<td>PE 1**Fitness and Wellness Course*</td>
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<tr>
<td>ET 201 Environmental Technology Lab I or ET 203 Pollution Prevention</td>
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<td>PY 131 Conceptual Physics or PY 211 College Physics I</td>
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<td>PB 360 Introduction to Ecology</td>
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<td>ET 202 Environmental Technology Lab II</td>
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<td>PB 365 Ecology Lab</td>
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<td>ET 252 Intro. To Spatial Info. Technology or PRT 462 Intro to Geographic Inform. Systems</td>
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<td>ST 301 Statistical Methods I or ST 311 Introduction to Statistics</td>
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<td>ST 312 or MA 231</td>
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<td>PS 320 US Environ. Law and Politics or PS 336 Global Environmental Politics or ARE 309 Environ. Law &amp; Economic Policy</td>
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<td>SSC 200 Soil Science</td>
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<tbody>
<tr>
<td>CH 220 Introduction to Organic Chemistry or CH 221/222 Organic Chemistry I</td>
<td>4</td>
<td>ET 302 Environmental Technology Lab IV or ET 303 Lab Safety Systems and Management</td>
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<td>ET 301 Environmental Technology Lab III</td>
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<td>ET 310 Environmental Monitor &amp; Analysis</td>
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<td>GEP Requirement Humanities Elective*</td>
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<td>ET/MEA 320 Fundamentals of Air Pollution</td>
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<td>GEP Requirement Interdisciplinary Perspective Elective*</td>
<td>2-3</td>
<td>CH 201 Chemistry A Quantitative Science and CH 202 Quantitative Chemistry Lab or Advised Electives 2</td>
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<td>Advised Electives 2</td>
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<td>NR 300 Natural Resource Measurements or Advised Electives 2</td>
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<tr>
<th>SUMMER</th>
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<tr>
<td>ET 330 Environmental Technology Practicum</td>
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<tr>
<td>ET 415 Toxicological and Environmental Chemistry or CH 223/224 Organic Chemistry 2</td>
<td>4</td>
<td>ET 460 Practice of Environmental Technology3</td>
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<tr>
<td>ET 401 Environmental Technology Lab V</td>
<td>1</td>
<td>ET 490 Seminar in Environmental Technology</td>
<td>1</td>
</tr>
<tr>
<td>ET 455 Adaptive Management or ET 470 Environmental Forensics3</td>
<td>3</td>
<td>IDS 201 Environmental Ethics or STS 302 Technology and Human Values or PHI 340 Philosophy of Science</td>
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<tr>
<td>NR484 Environmental Impact Assessment or NR 420 Wetlands and Watershed Hydrology</td>
<td>4</td>
<td>Advised Elective2</td>
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<td>Free Elective</td>
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**Minimum Credit Hours Required for Graduation: 125**

**Major/Program Footnotes:**

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<tr>
<td>ET 415 Toxicological and Environmental Chemistry or CH 223/224 Organic Chemistry 2</td>
<td>4</td>
<td>ET 460 Practice of Environmental Technology3</td>
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<td>ET 401 Environmental Technology Lab V</td>
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<td>ET 490 Seminar in Environmental Technology</td>
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<td>ET 455 Adaptive Management or ET 470 Environmental Forensics3</td>
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<td>IDS 201 Environmental Ethics or STS 302 Technology and Human Values or PHI 340 Philosophy of Science</td>
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<tr>
<td>NR484 Environmental Impact Assessment or NR 420 Wetlands and Watershed Hydrology</td>
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<td>Advised Elective2</td>
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<tr>
<td>Advised Elective2</td>
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<td>Free Elective</td>
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<tr>
<td><strong>Total: 15</strong></td>
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</table>

**Minimum Credit Hours Required for Graduation: 125**
1 For 260 may be substituted for PB 360
2 Advised Electives: Students are encouraged to select courses that will fulfill an academic minor. Courses should enhance students’ career objectives and must be approved by faculty advisor. Listed below are recommended courses:
ET 470*, ET 410, FOR 221, FOR 248, FOR 260, FOR 330, FOR 339, FOR 414, FOR 415, FOR 420* MB 351/352, MB 409, MB 411/412, MEA 101/102, MEA 110/111, MEA 130, MEA 135, MEA 140, MEA 200, MEA 210, MEA 213, MEA 214, MEA 250, MEA 251, MEA 300, MEA 323, TOX 201, TOX 401, TOX 415, TOX 495, NR 400, NR 350, NR 421, PB 200, PB 213, PB 220, PB 400, PB 403, PB 413, PB 421, PB 480, PP 315, PP 460, SSC 341, SSC 361, SSC 452, SSC 461, SSC 470, ST 350, ST 361, ST 370, ST 371, ST 372, ZO 220, ZO 419, ZO 441/442, ZO 460
*ET 470 and FOR 420 cannot be counted towards both core course requirements and advised electives.

3 ET 470 may be substituted for ET 460 if ET 455 is taken. ET 470 cannot be counted toward both core course requirements and advised elected.

* General Education Program (GEP) requirements and GEP Footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.
University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html.

Mathematical Sciences (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121 or MA 131 and ST 301 or ST 311

Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: BIO 181 and CH 101/102

Humanities (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list.

Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: EC 201 or EC 205 or ARE 201. Select an additional course other than Economics.

Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts.

Interdisciplinary Perspectives (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: IDS 201 or STS 302 or PHI 340

Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

U.S. Diversity (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

Global Knowledge (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: IDS 201 or STS 302 or PHI 340

Foreign Language proficiency - Proficiency at the FL__102 level is required for graduation.
College of Natural Resources, NCSU  
Forestry and Environmental Resources Department  
Fisheries, Wildlife & Conservation Biology – Conservation Biology Concentration  
Effective: 08/2012

### FRESHMAN YEAR

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<tr>
<td>NR 100 Intro to Natural Resources</td>
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<td>CH 101 Chemistry – A Molecular Science*</td>
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<td>ENG 101 Academic Writing &amp; Research*</td>
<td>4</td>
<td>CH 102 General Chemistry Lab*</td>
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<td>MA 131 Elements of Calculus*</td>
<td>3</td>
<td>BIO 183 Intro Bio Cell/Mol*</td>
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<td>BIO 181 Intro Bio Eco./Div.*</td>
<td>4</td>
<td>COM 110 Public Speaking or</td>
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<td>PE 1** Fitness &amp; Wellness*</td>
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<td>COM 112 Interpersonal Communication</td>
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<td>GEP Humanities Requirement*</td>
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<td>GEP Physical Ed/Healthy Living Requirement*</td>
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### SOPHOMORE YEAR

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<tr>
<td>Plant Elective*</td>
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<td>Economic Elective*</td>
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<td>FW 221 Conservation of Nat Resources*</td>
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<td>Ecology Elective*</td>
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<td>PY 131 Conceptual Physics*</td>
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<td>GEP Interdisciplinary Perspectives Requirement*</td>
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<td>FOR 172 Forest Systems Map and Mens. Physical Science Elective</td>
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<td>GEP Additional Breadth Requirement*</td>
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### JUNIOR YEAR

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<tr>
<td>GIS 410 Intro to GIS</td>
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<td>GEP Humanities Requirement*</td>
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<tr>
<td>FW 333 Conservation Biology in Practice</td>
<td>4</td>
<td>CH 221 Organic Chemistry</td>
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<td>FW 353 Wildlife Management</td>
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<tr>
<td>ST 311 Intro to Statistics*</td>
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<td>GN 311 Genetics</td>
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<td>ENG 333 Comm for Science &amp; Research</td>
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<tr>
<td>FW 311 Wildlife Inventory and Mgmt.</td>
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<tr>
<td>FW 312 Fisheries Techniques and Mgmt.</td>
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<td>FW 313 Mountain Wildlife Eco. and Mgmt.</td>
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<td>FW 314 Coastal Fish Eco. and Mgmt.</td>
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<td>A combination of Study Abroad &amp; Internships</td>
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<tr>
<td>Fish and Wildlife Elective*</td>
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<td>FW 453 Principles of Wildlife Science</td>
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<td>GEP Interdisciplinary Perspectives Requirement*</td>
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<td>Or BIO 420/423 Fisheries Science</td>
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<td>Policy Elective*</td>
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<td>FW 411 Human Dimensions of Wildlife</td>
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<td>Conservation Biology Elective*</td>
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Minimum Credit Hours Required for Graduation* : 126
Major/Program Footnotes:

1. Select from FOR 339, PB 250, PB 403, PB 405
2. Select from CH 201/202, CH 223, CH 323, MEA 100, MEA 200, MEA 210, MEA 220, MEA 250, PY 212
3. Select from ARE 201, EC 201, or EC 205
4. Select from PB 360, BIO 360, or FOR 260
5. Select from NR 300, MA 231, MA 241, CSC 200, ST 312
6. Select from BIO 419, FW 403, FW 404, FW 465, ENT 201, ENT 402, ENT 425, FOR 252, FOR 304, SSC 200, ET 252
7. Internships or study abroad experiences can be completed at any point during the curriculum
8. Select from BIO 410, BIO 420, BIO 441, FW 453, ZO 501, ZO 542, ZO 544
9. Select from NR 460, ARE 309, PS 320, PS 336
10. Select from BIO 561, FW 403, FW 460, NR 406

*General Education Program (GEP) requirements and GEP Footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uapp/academic-standards/gep/courselists/index.html.

Courses/groupings in the above display with an asterisk may fulfill all or part of a GEP requirement. See categories below.

A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 131, ST 311

B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101 and CH 102, PY 131, BIO 181, BIO 183, FW 221

C. Humanities (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None

D. Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Economics Elective, Policy Elective

E. Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

F. Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None

H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

I. U.S. Diversity (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.
## FRESHMAN YEAR

<table>
<thead>
<tr>
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<th>SPRING SEMESTER</th>
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<tbody>
<tr>
<td>NR 100 Intro to Natural Resources</td>
<td>2</td>
<td>CH 101 Chemistry – A Molecular Science*</td>
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<tr>
<td>ENG 101 Academic Writing &amp; Research*</td>
<td>4</td>
<td>CH 102 General Chemistry Lab*</td>
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<td>MA 131 Elements of Calculus*</td>
<td>3</td>
<td>BIO 183 Intro Bio Cell/Mol*</td>
<td>4</td>
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<td>BIO 181 Intro Bio Eco./Div.*</td>
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<td>COM 110 Public Speaking or</td>
<td>3</td>
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<tr>
<td>PE 1** Fitness &amp; Wellness*</td>
<td>1</td>
<td>COM 112 Interpersonal Communication</td>
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<td></td>
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## SOPHOMORE YEAR

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<thead>
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<tbody>
<tr>
<td>CH 220 Introductory Organic Chemistry</td>
<td>4</td>
<td>ARE 201 Intro to Ag &amp; Resource Economics or</td>
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<td>FW 221 Conservation of Nat Resources*</td>
<td>3</td>
<td>EC 205 Principles of Microeconomics*</td>
<td>3</td>
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<td>Communication Elective</td>
<td>3</td>
<td>BIO 260 Evolution, Behavior, and Ecology or</td>
<td>4</td>
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<tr>
<td>PY 131 Conceptual Physics*</td>
<td>4</td>
<td>PB 360/365 Intro to Ecology/Ecology Lab*</td>
<td>4</td>
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<tr>
<td>FOR 172 Forest Systems Map and Mens.</td>
<td>2</td>
<td>CH 201 Chemistry – A Quantitative Science</td>
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<td>CH 202 Quantitative Chemistry Lab</td>
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## JUNIOR YEAR

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<tr>
<td>GEP Humanities Requirement*</td>
<td>3</td>
<td>FW (BIO) 420 Intro to Fisheries Science</td>
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<td>FW 353 Wildlife Management</td>
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<td>FW (BIO) 423 Intro to Fisheries Science Lab</td>
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<td>GN 311 Principles of Genetics</td>
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<td>FW 411 Human Dimensions of Wildlife</td>
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<tr>
<td>ST 311 Intro to Statistics*</td>
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<td>Technology Elective</td>
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<td>ENG 333 Com. for Science and Research</td>
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<td>GEP Additional Breadth Requirement*</td>
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<td>Technical Elective*</td>
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## SUMMER

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<tr>
<td>FW 312 Fisheries Techniques and Mgmt.</td>
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<tr>
<td>FW 313 Mountain Wildlife Eco. and Mgmt.</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>FW 314 Coastal Fish Eco. and Mgmt.</td>
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## SENIOR YEAR

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<tr>
<td>Quantitative Elective7</td>
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<td>NR 400 Natural Resource Mgt</td>
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<tr>
<td>BIO Elective8</td>
<td>3</td>
<td>BIO 441 Biology of Fish</td>
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</tr>
<tr>
<td>GEP Interdisciplinary Perspectives Requirement*</td>
<td>2-3</td>
<td>BIO 442 Biology of Fish Lab</td>
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<tr>
<td>NR 460 Renewable Nat Res Mgmt. and Policy</td>
<td>3</td>
<td>Physical Science Elective9</td>
<td>3</td>
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<td>BIO 419 Limnology</td>
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<td>Technical Elective6</td>
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</table>

Minimum Credit Hours Required for Graduation*: 126
Major/Program Footnotes:

1 Students with appropriate math skills are encouraged to take the math sequence MA 141 & 241
2 Students wishing to take a 2-course organic chemistry sequence should take CH 221/222 & CH 223/224
3 Select from ENG 214, ENG 215, ENG 216, COM 201, COM 211, COM 226, COM 301, COM 302
4 Students wishing to take a 2-course physics sequence should take PY 211 & PY 212
5 Select from ET 252, NR 300, PRT 462
6 Select from FOR 252, FOR 304, FOR 420, FW 404, FW 453, MEA 200/210, MEA 220, MEA 250/251, MEA 549, PB 200, ZO 515, ZO 586/587
7 Select from MA 231, MA 241, CSC 200, ST 311
8 Select from BIO 250, BIO 402, BIO 403, BIO 410, BIO 422, BIO (ENT) 425
9 Select from PY 212, CH 223, MEA 100, MEA 130/135, MEA 200/210, MEA 220, MEA 250/251

General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html.

*Courses/groupings in the above display with an asterisk may fulfill all or part of a GEP requirement. See categories below.

A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
MA 131, ST 311

B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
CH 101 and CH 102, PY 131, BIO 181, BIO 183, FW 221, PB 360 and PB 365 or BIO 260

C. Humanities (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
None

D. Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
ARE 201 or EC 205, NR 460

E. Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

F. Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
None

H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

I. U.S. Diversity (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.
### Freshman Year

**Fall Semester**
- NR 100 Intro to Natural Resources: 2 credits
- ENG 101 Academic Writing & Research*: 4 credits
- MA 131 Elements of Calculus*: 3 credits
- BIO 181 Intro Bio: Cell/Mol Bio.: 1 credit
- PE 1** Fitness & Wellness *: 1 credit

**Spring Semester**
- CH 101 Chemistry – A Molecular Science*: 3 credits
- CH 102 General Chemistry Lab: 1 credit
- BIO 181 Intro Bio: Cell/Mol Bio.: 4 credits
- COM 110 Public Speaking or: 3 credits
- COM 112 Interpersonal Communication: 3 credits

*Total: 14 credits

### Sophomore Year

**Fall Semester**
- PB 200 Plant Life: 4 credits
- FW 221 Conservation of Nat Resources*: 3 credits
- Communications Elective: 3 credits
- PY 131 Conceptual Physics*: 4 credits
- FOR 172 Forest Systems Map and Mens.: 2 credits

**Spring Semester**
- ARE 201 Intro to Ag & Resource Economics or: 4 credits
- EC 205 Principles of Microeconomics*: 3 credits
- BIO 260 Evolution, Behavior, and Ecology or: 3 credits
- PB 360/365 Intro to Ecology/Ecology Lab*: 4 credits
- GEP Interdisciplinary Perspectives Requirement*: 3 credits
- GEP Additional Breadth Requirement*: 3 credits
- Quantitative Elective: 3 credits

*Total: 16 credits

### Junior Year

**Fall Semester**
- FOR 339 Dendrology: 4 credits
- FW 353 Wildlife Management: 3 credits
- GN 311 Principles of Genetics: 4 credits
- ST 311 Intro to Statistics*: 3 credits

**Spring Semester**
- GEP Humanities Requirement*: 3 credits
- CH 220 Introductory Organic Chemistry*: 4 credits
- Plant Biology Elective: 3 credits
- FW 411 Human Dimensions of Wildlife: 3 credits

*Total: 14 credits

### Summer

- FW 311 Piedmont Wildlife Ecology and Mgmt: 3 credits
- FW 312 Fisheries Techniques and Mgmt.: 1 credit
- FW 313 Mountain Wildlife Eco. and Mgmt. (FW): 1 credit
- FW 314 Coastal Fish Eco. and Mgmt. (FW): 1 credit

*Total: 6 credits

### Senior Year

**Fall Semester**
- Technical Elective*: 3 credits
- Wildlife Elective*: 3 credits
- GEP Interdisciplinary Perspectives Requirement*: 2-3 credits
- NR 460 Renewable Nat Res Mgmt. and Policy*: 3 credits
- FW 404 Forest Wildlife Management: 3 credits

**Spring Semester**
- FW 453 Principles of Wildlife Science: 4 credits
- NR 400 Natural Resource Mgmt.: 4 credits
- FW (BIO) 420 Intro to Fisheries Science: 3 credits
- Physical Science Elective*: 3 credits

*Total: 14-15 credits

Minimum Credit Hours Required for Graduation*: 125
Major/Program Footnotes:

1. Students with appropriate math skills are encouraged to take the math sequence MA 141 & 241
2. Select from ENG 214, ENG 215, ENG 216, COM 201, COM 211, COM 226, COM 301, COM 302
3. Students wishing to take a 2-course physics sequence should take PY 211 & PY 212
4. Select from MA 231, MA 241, CSC 200
5. Students wishing to take a 2-course organic chemistry sequence should take CH 221/222 & CH 223/224
6. Select from PB 220, PB 250, PB 403, PB 405
7. Select from ENT 201, ENT 402, ENT 425, FOR 252, FOR 304, SSC 200, ET 252, NR 300, PRT 462
8. Select from BIO 410, ZO 501, ZO 542, ZO 544
9. Select from CH 201/202, CH 223, CH 322, MEA 100/100L, MEA 130/135, MEA 200, MEA 210, MEA 220, MEA 250/251, PY 212

* General Education Program (GEP) requirements and GEP Footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uap/academic-standards/gep/courcelists/index.html.
*Courses/groupings in the above display with an asterisk may fulfill all or part of a GEP requirement. See categories below.

A. Mathematical Sciences  (6 credit hours – one course with MA or ST prefix)
   Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 131, ST 311
B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)
   Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101 and CH 102, PY 131, BHO 181, BHO 183, FW 221, PB 360 and PB 365 or BIO 260
C. Humanities (6 credit hours selected from two different disciplines/course prefixes)
   Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None
D. Social Sciences (6 credit hours selected from two different disciplines/course prefixes)
   Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ARE 201 or EC 205, NR 460
E. Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)
   Choose from the University approved GEP Physical Education/Healthy Living course list.
F. Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)
   G. Humanities/ Social Sciences/Visual and Performing Arts
   Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None
H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:
I. U.S. Diversity (USD)
   Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None
J. Global Knowledge (GK)
   Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None
K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.

B. Transfer Students
The Department of Forestry and Environmental Resources accepts NCSU students with a minimum 2.1 GPA and students from other accredited colleges and universities with good academic records (minimum 2.1 GPA on a 4.0 scale is preferred) as transfers into its FOM, NR and SFW curricula. Students at community colleges, junior colleges, or other baccalaureate
institutions who plan to transfer to one of the department's degree programs should closely follow the desired curriculum by taking the equivalent courses available. Only equivalent courses will be credited to the appropriate degree program after enrolling at NCSU and the time required to complete the degree will depend on the courses remaining in the degree track. Students applying for the Forest Management curriculum must have at least 30 credits equivalent to those in the freshman and sophomore years and must transfer to NCSU in the fall of the sophomore year in order to complete the courses required for summer camp. Questions about transfer procedures or courses should be directed to the following faculty members:

- Gary Blank, Director of Undergraduate Programs  
  5229 Jordan Addition, 919-515-7566, gary_blank@ncsu.edu

- Bronson Bullock, Coordinator of the Forest Management Program  
  3102 Jordan Hall, 919-513-1248, bronson_bullock@ncsu.edu

- George Hess, Coordinator of the Natural Resources Program  
  5233 Jordan Addition, 919-515-7437, george_hess@ncsu.edu

- Terrie Litzenberger, Coordinator of the Environmental Technology & Management Program  
  2227 Jordan Addition, 919-515-7581, terrie_litzenberger@ncsu.edu

- Chris Moorman, Coordinator of the Fisheries, Wildlife & Conservation Biology Program  
  Turner House, 919-515-7586, chris_moorman@ncsu.edu

### C. Placement Procedures, 2010-2011

This information can be found at [http://admissions.ncsu.edu/find-stuff/placement.php](http://admissions.ncsu.edu/find-stuff/placement.php)

#### 1. Mathematics Placement

Successful completion of freshman year mathematics is one of the best early indicators of ultimate graduation from NC State. For that reason, we require admitted freshmen to take a test to determine proper placement in math prior to attending New Student Orientation and registering for fall classes.

One option is to take the SAT Subject Test - Mathematics Level 2 in the spring prior to attending orientation and have your scores reported electronically to NC State (code #5496). More information about test registration and deadlines is available at [http://www.collegeboard.com](http://www.collegeboard.com).

Alternatively, you may take the NC State online Mathematics Skill test. To ensure proper course placement you should plan to complete this assessment by May 22, 2012. To login and take the test you will need your Unity ID and password, which is assigned upon acceptance and displayed on your WolfPAW application status screen. There is no charge for this test, which is available at [https://www.webassign.net/ncsu/math.html](https://www.webassign.net/ncsu/math.html)
If you do not take the "SAT Subject Test - Mathematics Level 2" or the "NC State online Mathematics Skill test" you will not be allowed to register for a calculus course, which could result in a lower math placement and adversely affect your fall schedule.

The only exceptions to the placement test requirements will be for:

- students who have College Board Advanced Placement Calculus scores of 2 or better
- students who graduated from the NC School of Science and Mathematics and have letters of placement
- students enrolled in a 2-year Agricultural Institute program (separate math placement testing will be conducted at Orientation).

For more information about placement in Math contact:

- Dr. Jeffrey S. Scroggs, Dept. of Mathematics, at 919-515-7817 or at scroggs@ncsu.edu.

2. First Year Writing Placement

You will be placed in English courses at NC State based on SAT-Critical Reading 1 (formerly "Verbal") or ACT-English scores, Advanced Placement (AP) exam scores, or International Baccalaureate (IB) exam scores. If more than one of these scores is available, NC State will use the one which places you in the higher level course. Please refer to the Freshman Writing Program website:


3. Foreign Language Requirement and Placement

Since fall 1994, competency at the FL 102 (second semester foreign language) level is a graduation requirement at NC State. Some majors will require competency through the FL 201 level (third semester foreign language). You will be required to complete two years of the same language in high school and demonstrate proficiency, or determine appropriate placement by one of the following: taking the SAT II - Foreign Language Test, the Advanced Placement (AP) Foreign Language or Literature exam, the International Baccalaureate (IB) Foreign Language or Classical Language exam (Higher Level), or the NC State Foreign Language Placement Test on campus.

We strongly recommend that students who take the SAT Subject Test in Languages do so in their junior or senior year of high school.

For further information and a complete explanation of foreign language proficiency and placement, you may refer to the following website:

http://fll.chass.ncsu.edu/undergraduate/place.php
4. Advanced Placement Opportunities at NC State

Students at NC State may receive placement in advanced courses and accelerate their studies through the College Board Advanced Placement Program (AP), the International Baccalaureate Program (IB), the College Level Examination Program (CLEP), or NC State University departmental placement exams.

Each year nearly fifty percent of incoming freshmen at NC State present College Board Advanced Placement (AP) scores to receive advanced placement and/or credit. Typically, students who score 3.4, or 5 on AP exams can receive advanced placement and/or credit. (Some exams may require a higher minimum score for placement or credit.)

NC State also recognizes the International Baccalaureate (IB) program. Typically, students can earn advanced placement and/or college credit with scores of 5, 6, or 7 on Higher Level exams. (Some exams may require a higher minimum score for placement or credit.) Students will be granted placement or credit on a course-by-course basis, depending upon individual exam scores, rather than on the basis of completion of the IB Diploma.

Students may also earn credit through the College Board's College Level Examination Program (CLEP). Students may earn placement or credit for exam scores of 50 or higher, although credit is not awarded for many CLEP tests.

In order to receive placement or credit for AP, IB, and/or CLEP exams, students must have their official exam scores submitted to the Office of Undergraduate Admissions directly from the testing agency. Scores will not be accepted from high school or college transcripts.

D. Science Requirements

Because forestry, environmental technology, environmental sciences, and natural resources management apply scientific principles to the management of natural ecosystems, the FOM, ET, SFW, and NR curricula require a solid foundation in the basic physical and biological sciences. Courses in biology, physics, botany, chemistry and zoology are required to provide a foundation needed for the core courses in forestry. It is important that all of the basic science courses be taken before the end of the sophomore year because mastery of their contents is fundamental to an understanding of the advanced technical courses that follow in the junior and senior years.

E. FOM Freshman and Sophomore Courses, Course Sequences, and Prerequisites

NR 100 (Introduction to Natural Resources) and WPS 202 (Wood Structures and Properties) are taken in the Fall of the Freshman year. FOR 172 (Forest Systems Mapping and Mensuration I) and FOR 339 (Dendrology) are taken in the Fall of the sophomore year. FOR 260 (Forest Ecology) is taken in the Spring of the sophomore year. The Spring semester of each year, forestry students are required to take a professional development course from the following: FOR 150, FOR 250, FOR 350 and FOR 450.
Note:
Students enrolled in the Forest Management curriculum must follow the curriculum and make reasonable progress toward the degree to complete their degree requirements in four years.

A prerequisite course is one that provides important background knowledge that is essential to success in a course. The prerequisite courses listed in the course descriptions in the Undergraduate Catalog for a specific course must be successfully completed (with a C or better grade in many cases) before a student may enroll in the specific course.

The FOM curriculum has a "building block" progression based on sequencing courses in several topical areas and meeting the prerequisites required for many courses. All courses should be taken in the semester scheduled and in the order noted in the curriculum insofar as possible. Deviations should be discussed and cleared with your advisor. The courses in each semester of the junior year must be taken as a concurrent group. Students should be aware of the prerequisites for all courses and be aware of courses that are taught only once per year in a particular semester; see course descriptions in Chapter 4 or in the Undergraduate Catalog. Absolute prerequisites are listed below:

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<th>Course</th>
<th>Prerequisites</th>
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<tr>
<td>MA 114</td>
<td>MA 101</td>
</tr>
<tr>
<td>MA 121</td>
<td>MA 107 or 111</td>
</tr>
<tr>
<td>MA 141</td>
<td>MA 111 with C or better</td>
</tr>
<tr>
<td>CH 101</td>
<td>Eligibility for MA 107 or MA 111 with a C or better</td>
</tr>
<tr>
<td>CH 201</td>
<td>CH 101 with C or better</td>
</tr>
<tr>
<td>PY 211</td>
<td>MA 111</td>
</tr>
<tr>
<td>SSC 200</td>
<td>CH 101</td>
</tr>
<tr>
<td>ARE 201</td>
<td>MA 111</td>
</tr>
</tbody>
</table>

Students who must take a remedial math should discuss curriculum planning with your advisor prior to the Fall pre-registration period and work out a plan for the freshman and sophomore years. Rising sophomores who have not completed all freshman courses are urged to attend summer school to catch up with the curriculum schedule.

F. Forestry and Fisheries and Wildlife Summer Camp

The Forest Management curriculum (FOM 036) requires that each student attend a summer camp after the Sophomore year. This camp is a full-time residential program that lasts 9 weeks. Students register for the regular NCSU summer school session but live, learn, and work on the University’s 2,400-acre Hill Demonstration Forest, located 14 miles north of Durham, NC. Specific objectives of this Camp experience include:
1) To provide instruction in ecosystem concepts, structure and function of plant and animal communities, management practices, and practical field skills.

2) To introduce students to a variety of realistic work environments and practices to enable them to better evaluate forestry as a career.

3) To expand the students’ practical knowledge in a variety of subjects related to the curriculum, and enhance their ability to understand and apply subjects covered in the advanced professional courses.

4) To enhance students’ leadership abilities and professionalism and provide practical experience in teamwork.

At the Camp, students live in rustic but modern cottages and eat in a mess hall which serves three hot meals daily. Coursework is a combination of classroom instruction and applied outdoor exercises that meet 8 hours/day Monday - Friday. The Camp program consists of the following five courses and students must achieve a C or better in each:

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Semester Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 204</td>
<td>Silviculture</td>
<td>2</td>
</tr>
<tr>
<td>FOR 261</td>
<td>Forest Communities</td>
<td>2</td>
</tr>
<tr>
<td>FOR 264</td>
<td>Forest Wildlife</td>
<td>1</td>
</tr>
<tr>
<td>FOR 265</td>
<td>Fire Management</td>
<td>1</td>
</tr>
<tr>
<td>FOR 273</td>
<td>Mapping and Mensuration II</td>
<td>3</td>
</tr>
<tr>
<td>FW 311</td>
<td>Wildlife Inventory Mgmt</td>
<td>4</td>
</tr>
<tr>
<td>FW 312</td>
<td>Fish. Techniques &amp; Management</td>
<td>1</td>
</tr>
<tr>
<td>FW 313</td>
<td>Mountain Wildlife Ecology &amp; Mgmt.</td>
<td>1</td>
</tr>
</tbody>
</table>

Grading is based on the student's performance both individually and as a member of a team, on written reports, and on examinations.

Costs include summer school tuition and fees for 9 credits, a camp fee for costs of meals at Slocum Camp and room and board for trips to the Coastal Plain and Mountains and required equipment, textbooks, and supplies. For planning purposes, Forestry/Fish &Wildlife Summer Camp 2012 costs are shown below. These are estimated costs as Tuition is not set by the Department.

<table>
<thead>
<tr>
<th>Camp Fees:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FOM</td>
</tr>
<tr>
<td>SFF/SFW</td>
<td>$1200.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuition and Fees:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident FOM</td>
<td>$2079.00</td>
</tr>
<tr>
<td>Non-Resident FOM</td>
<td>$6133.00</td>
</tr>
<tr>
<td>Resident SFF/SFW</td>
<td>$1386.00</td>
</tr>
<tr>
<td>Non-Resident SFF/SFW</td>
<td>$4422.00</td>
</tr>
</tbody>
</table>
Camp instruction is by faculty of the College of Natural Resources, assisted by qualified assistants. Administrative & Instructional Staff are:

- Dr. Jeffrey Buckel  Marine Fisheries
- Dr. Bronson Bullock  Mapping and Mensuration
- Dr. Richard R. Braham  Dendrology
- Mr. Joe Cox  Silviculture
- Dr. Chris DePerno  Wildlife
- Mr. Jimmy Dodson  Fire Management & Hydrology
- Mr. Mark Johns  Wildlife
- Dr. Thomas Kwak  Inland Fisheries
- Dr. Chris Moorman  Wildlife

Because Forestry Summer Camp is a critical element of the "building block" progression of the Forest Management Curriculum, adequate preparation for the camp is important to succeed there, as well as for preparation for the core junior - senior courses. The students attending summer camp should try to complete all Freshman and Sophomore courses.

FOM Sophomores who are eligible for Summer Camp, are notified in January-February of each year. Arrangements for enrollment into Summer Camp are announced at a meeting held during March each year. Students expecting to attend summer camp must attend this meeting.

A student receiving a grade of D or F in any course at summer camp must make up those hours in order to satisfy graduation requirements. The make-up can be done by retaking the course or portions thereof or a substitute course as required by the course instructor.

G. FOM Junior-Senior Course Sequences and Prerequisites

Forestry Summer Camp is a General Prerequisite for all Junior and Senior Forestry courses. As with the freshman-sophomore courses, the junior-senior courses have a building block sequence to which the student must adhere. All of the courses of the Fall semester of the junior year must be taken as a concurrent group and that whole group of courses is prerequisite to the courses of the Spring semester of the junior year that also must be taken as a concurrent group. In turn, the group of Spring semester junior courses are prerequisite to FOR 405.

**Absolute prerequisites for junior-senior core courses are outlined below. Forestry core courses require a C or better.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
</table>
FOR 303    BO 200, CH 101/102, FOR 260, SSC 200 & Summer Camp
FOR 304    FOR 303, 319, 353, ST 311
FOR 319    ARE 201, summer camp
FOR 353    MA 114, summer camp
FOR 374    FOR 273, ST 311, MA 121, MA 114
FOR (PP) 318    Freshman Biology/Botany Course
FOR (ENT) 402    Freshman Biology/Botany Course
FOR 405    FOR 319, 374, 304
FOR 406    FOR 405, 460

H. NR Course Sequences and Prerequisites

The NRE and NRP curricula have a broader complement of upper level courses and are somewhat more flexible than FOM, and ESH. However, the curriculum structure is purposeful and should be followed as closely as possible. Many of the 100, 200, and 300 level courses are taught both semesters (and some in summer school) but some of the 300 level courses and all of the 400 level courses are taught only in the semester shown on the curriculum.

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 101</td>
<td>Eligibility for MA 107 or MA 111 with C or better</td>
</tr>
<tr>
<td>CH 201</td>
<td>CH 101 with C or better</td>
</tr>
<tr>
<td>MA 131</td>
<td>MA 107 or 111</td>
</tr>
<tr>
<td>MA 141</td>
<td>MA 111 with C or better</td>
</tr>
<tr>
<td>ARE 201</td>
<td>MA 111</td>
</tr>
<tr>
<td>PY 211</td>
<td>MA 111</td>
</tr>
<tr>
<td>SSC 200</td>
<td>CH 101</td>
</tr>
<tr>
<td>ARE 336</td>
<td>ARE 201</td>
</tr>
<tr>
<td>BO 360/365</td>
<td>FOR 212 or ZO 150</td>
</tr>
<tr>
<td>NR 300</td>
<td>ST 311, BO 360 Helpful; SSC 200, FOR 353</td>
</tr>
<tr>
<td>NR 360</td>
<td>NR 301</td>
</tr>
<tr>
<td>NR 401</td>
<td>NR 360</td>
</tr>
<tr>
<td>NR 484</td>
<td>NR 300 or ET 310</td>
</tr>
</tbody>
</table>

The 400 level courses of the senior year in NRE and NRP are a capstone group that requires completion of the majority of the lower level courses.

I. Additional Graduation Requirements

Students in the FOM curriculum must earn a minimum grade of C- in ENG 101 and maintain a Major Grade Point Average (MGPA) of 2.0 or better in all forestry courses. A student with an MGPA less than a C will be allowed to proceed with the curriculum, but must improve his/her average to a C or better in order to graduate. If the student has more than one F in his/her forestry courses in a given semester, that student will not be allowed to proceed with the
curriculum until those courses are repeated with a C or better grade in order to meet the MGPA requirement.
CH. 4. ELECTIVE COURSES AND PROGRAMS: ELECTIVES, DEGREE MINORS, DUAL DEGREES, COOPERATIVE EDUCATION PROGRAM

Rationale: The program in General Education established the foundation for a lifetime of intellectual discovery, personal development, and community service while preparing students for advanced work in various academic and professional disciplines.

Objectives:

Through the teaching of courses offered in each of the following subject areas as well as in the delivery of the academic disciplines, the General Education program will:

1. Provide instruction that enables students to master basic concepts of a broad array of the intellectual disciplines,
2. Help students develop versatility of mind, an ability to examine problems individually and collaboratively from multiple perspectives, including ethical and aesthetic perspectives,
3. Provide students the guidance and skills necessary to become intellectually disciplined, to be able to construct arguments that are clear, precise, accurate, and of relevant depth and breadth,
4. Encourage students to take personal responsibility for their education, including the ability to find, evaluate and communicate new information, setting the stage for life-long learning.

The above page can be found at:

http://www.ncsu.edu/uap/academic-standards/ger/ratobj.html
A. General

The Forest Management, Environmental Technology & Management, Fisheries, Wildlife & Conservation Biology and the Natural Resources curricula are designed to provide students with a broad education that prepares them not only for a career but to face the complexities of modern life, to enjoy its many amenities and to serve as good citizens of society. The Humanities and Social Science electives in the curricula provide students the opportunities to take courses that support their major, broaden their education, or expand their knowledge in areas of personal interest. Degree Minors, Dual Degrees, and the Cooperative Education Program provide specific opportunities for broadening the scope of the major, for developing a specialty associated with the major, or in the case of the Co-op Program, gaining valuable on-the-job experience. A certain degree of flexibility may allow certain students, particularly those with good academic records, in making course substitutions within the major to support dual degrees, specializations, or graduate school planning.

B. NCSU Foreign Language Requirement for 2012-2013

1) Students are required to demonstrate competency at the FL_102 level in a modern or classical foreign language as a requirement for graduation from NCSU.

2) Freshmen may satisfy this requirement before entering NCSU in one of the following ways:

   a) Score of 510 or above on the College Board Foreign Language Achievement Test (SAT II)
   b) Advanced Placement score of 3 or above (College Entrance Examination Board AP Test)
   c) A grade of C (77) or better in each of two years of high-school study of the same language (beginning with incoming classes of Fall 2006 – students admitted prior to this – 2 years with a B (85) in each year or 3 years with a C in each year) are notified during New Student Orientation and will receive a notation on their Automated Degree Audit (ADA) stating that they have met the university foreign language proficiency requirement – the “equivalent” of FL 102/FL Elementary II – as “FL* 100 High School ***PF.”

3) Proficiency at the FL_102 level after entering NCSU may be demonstrated as follows:

   a) Completion of a FL_102 course with a passing grade of S, D or better.
   b) Transfer credit equivalent to FL_102 from an accredited institution or University-approved study abroad program.
   c) Placement into FL_201 or higher on the placement test in the languages offered by the Department of Foreign Languages and Literatures

4) Advanced placement credit will be awarded as follows:

   a) Students earning a score of 4 on the Advanced Placement Foreign Language Test in high school will have met the university proficiency requirement and will obtain three hours of advanced placement credit for FL_201 upon completion of FL_202 with a grade of C- or
better on the first attempt. Students earning a score of 5 on the Advanced Placement Foreign Language Test can obtain six hours of advanced placement credit for FL_201 and 202 upon completion of a 300-level course with a grade of C -or better on the first attempt.

b) Students who place into FL_201 on the basis of the SAT II Test or the NCSU Placement Test will have met the FL 201 requirement and are eligible to receive three hours of advanced placement credit by enrolling in the course into which they placed and earned a grade of C- or better on the first attempt. Students completing FL 202 with a C- or better on the first attempt will receive credit for FL 201 and FL 202.

5) Native speakers of languages other than English do not take the NCSU Placement Test and do not receive credit for FL 101-102 in their native language. They do, however, fulfill the foreign language proficiency requirement and can receive certification by contacting the Associate Department Head.

6) FL_101 or 102 in a foreign language other than the one in which proficiency is certified may be used to fulfill the one semester advanced writing/speech/foreign language general education requirement or may be counted as a free elective.

All this information, and more frequently asked questions, can be found on this page:

http://fll.chass.ncsu.edu/undergraduate/place.php#FAQ

C. Humanities and Social Sciences Electives

The need for an educated person to understand our history, culture, and society is recognized in the university requirement of 21 credit hours in the humanities and social sciences. Some of those credits are designated in specific courses in ETM, FOM, NR and SFW. The courses selected to fulfill the elective credits in the Humanities and Social Sciences must come from those on the NCSU General Education list of courses. At least one humanities/social science course must focus on a non-English speaking culture. The course to satisfy the non-English speaking culture requirement may be chosen from: (1) any course denoted by an asterisk (*) on the Humanities and Social Sciences lists or (2) any foreign language course except FLE 101, 102, 103, & 104; FLF 401; FLG 401, or FLS 401.

The general education course lists are continuously updated. To aid the students and advisors in selecting the appropriate courses to fulfill these requirements, they need to follow the following instructions:

(1) Go to this site in the NCSU Home Page:

http://www.ncsu.edu/uap/academic-standards/gep/index.html

(2) Select your curriculum title and enter:

Environmental Technology & Management – (BS) 15ET036
(3) Once you are in your program, click on the desired group to get the list of courses that you can select to meet your interest and group requirements.

D. Leadership and Teamwork

An important component of a professional education is learning how to lead others and how to work effectively in teams. Much of that learning occurs in both formal and informal situations in courses in both the FOM and NR curricula where the students work in teams. A program with more formal educational activities to assist in the development of leadership and teamwork skills has been incorporated into the Forest Management curriculum. Specific instruction and practice in leadership and teamwork concepts and skills are incorporated into several of the courses. Of course, all students are encouraged to consider taking courses in the Leadership Development Series as a routine part of their course selection each semester. There is a nominal fee of $5.00 for each leadership module, but the College of Natural Resources pays a group fee each semester so that students in this college may take an unlimited number of leadership series modules free of charge. Visit the Center for Student Leadership, Ethics & Public Service, 3115 Talley Student Center, to obtain a Leadership Development Series schedule or to use the library of leadership resources and reference materials. All courses completed are recorded on the leadership transcript that is maintained by the University Registrar and is issued as part of the academic transcript. For more information see the web page: http://www.fis.ncsu.edu/slc

E. Degree Minor Programs

Minor programs are available in a number of academic departments and interdisciplinary programs. Such minors provide the student with the opportunity to take a group of courses so as to develop greater knowledge and expertise in a defined area of study. A minor may be particularly helpful if the student wishes to take course work in a field distantly removed from ETM, FOM, FW, or NR yet which complements the major and provides greater depth than would be obtained by taking a sampling of courses in the other area. If a student minors in a given area, a statement to that effect appears on the university transcript.

A list of approved minors, together with the address and phone number of the sponsoring department can be found at:

http://oucc.ncsu.edu/minors

Examples of the courses required for popular minors taken by students enrolled in the Department of Forestry and Environmental Resources are:
1. **Minor in Forest Management**

Open to all students enrolled at NCSU except FOM majors.

**Option 1**
- FOR 339 - Dendrology (4 hours)
- FOR 252 - Introduction to Forest Science (3 hours)
- FOR 460 - Renewable Resource Policy and Management (3 hours)
- At least two additional 300 or 400 level forestry courses (6-8 hours)

**Option 2**
- FOR 172 – Forest Systems Mapping and Mensuration I (2 hours)
- FOR 339 – Dendrology (4 hours)
- Forestry Summer Camp (9 hours)
  - FOR 204 - Silviculture, FOR 261 - Forest Communities, FOR 264 - Forest Wildlife
  - FOR 265 - Fire Management, FOR 273- Mapping and Mensuration II
- FOR 460 - Renewable Resource Policy and Management (3 hours)

For additional information, contact Dr. Gary Blank, Department of Forestry and Environmental Resources, ph. 515-7566.

2. **Minor in Wetlands Assessment**

The Undergraduate Minor in Wetland Assessment is an interdisciplinary, interdepartmental minor that is designed to provide NCSU graduates with the requisite knowledge and skills needed for entry level competence in the field of wetland delineation and assessment. Soils, hydrology, and plant identification courses of the minor build the scientific background and skills needed to understand the structure and functions of wetland ecosystems and to apply assessment protocols. The capstone course, NR 421 Wetland Assessment, Delineation, and Regulation, focuses on further development of knowledge and skills in applying wetlands assessment, delineation, and regulation procedures.

**Objectives**
1. Have a broad scientific background in the structure and functions of wetland ecosystems.
2. Have field experience in assessing characteristics and functions in all of the major wetland types of North Carolina.
3. Be able to apply the USACE procedures to conduct delineations of jurisdictional wetlands.
4. Be familiar with wetlands regulatory programs and be able to apply for wetlands permits.
5. Be able to apply the most common wetland functional assessment techniques.

**Program of Study**

The Undergraduate Minor in Wetland Assessment consists of 17 credit hours. BO 405 and FOR (NR) 420 are prerequisites of NR 421, and therefore, must be completed before enrolling in NR 421.
Required courses for the Undergraduate Minor in Wetland Assessment.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BO 405 Wetland Flora</td>
<td>3</td>
</tr>
<tr>
<td>FOR (NR) 420 Watershed and Wetland Hydrology</td>
<td>4</td>
</tr>
<tr>
<td>SSC 452 Soil Classification</td>
<td>4</td>
</tr>
<tr>
<td>SSC 470 Wetland Soils</td>
<td>3</td>
</tr>
<tr>
<td>NR 421 Wetland Assessment, Delineation, and Regulation</td>
<td>3</td>
</tr>
</tbody>
</table>

Students interested in this minor should contact Dr. Gary Blank Department of Forestry and Environmental Resources, ph. 515-7566. Application forms for the minor will serve as the work plan and a copy will be forwarded to the student’s major advisor.

3. **Minor in Entomology**

The Department of Entomology offers an undergraduate minor in Entomology intended for students who are interested in insects, their management, and their role in the functioning of natural forests and managed forest ecosystems as well as agricultural systems. Insects represent the single largest group of animal species – they impact every facet of human life and they are a very important part of our environment.

**Objective**

Provide students with an opportunity to become familiar with the great diversity of insect life, to explore their form and function, to study their impact on and relationships with plants, humans, and other animals, and to learn about various methods of control.

The program requires 15 semester hours. Students must take ENT 425 (General Entomology – 3 cr.) or ENT 402 (Forest Entomology – 3 cr.) and 12 hours of courses from those listed below. However, of these 12 hours of elective courses, 6 hours of additional ENT courses are required. Since students in the forest management curriculum are required to take ENT 402 and BO 360, they need only 9 additional credits (6 in ENT) to minor in entomology.

<table>
<thead>
<tr>
<th>Elective Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT 201 Insects and People</td>
<td>3</td>
</tr>
<tr>
<td>ENT 203 An Introduction to the Honey Bee and</td>
<td>3</td>
</tr>
<tr>
<td>Beekeeping</td>
<td></td>
</tr>
<tr>
<td>ENT 401/501 Advanced Beekeeping</td>
<td>3</td>
</tr>
<tr>
<td>ENT 402 Forest Entomology</td>
<td>3</td>
</tr>
<tr>
<td>ENT 492 External Learning Experience</td>
<td>1-6</td>
</tr>
<tr>
<td>ENT 493 Special Problems in Entomology</td>
<td>1-6</td>
</tr>
<tr>
<td>ENT 495 Special Topics in Entomology</td>
<td>1-3</td>
</tr>
<tr>
<td>ENT 495A Insects and Human Disease</td>
<td>3</td>
</tr>
<tr>
<td>ENT 502 Insect Systematics</td>
<td>4</td>
</tr>
<tr>
<td>ENT 503 Insect Morphology and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>ENT (ZO) 509 Ecology of Stream Invertebrates</td>
<td>4</td>
</tr>
</tbody>
</table>
ENT 550 Fundamentals of Insect Control 3
ENT 565 Advanced Forest Entomology 3
ENT (ZO) 582 Medical and Veterinary Entomology 3
ENT 620 Special Problems Arranged
ENT 641 Agricultural Entomology Practicum 3
BO 360 Introduction to Ecology 3
BO 365 Ecology Laboratory 1
BO 403 Systematic Botany 4
ZO 260 Ecology, Behavior and Evolution 4
ZO 315 General Parasitology 3
ZO 402 Invertebrate Zoology 3
ZO 403 Invertebrate Zoology Laboratory 1
ZO 410 Introduction to Animal Behavior 3
ZO 460 Aquatic Natural History Laboratory 2

For more information about the Entomology Minor, please contact Dr. John Meyer, Undergraduate Administrator, Box 7613, Room 2105 Gardner Hall, North Carolina State University, Raleigh, NC 27695-7613, ph. 515-1659, fax 515-7746, John_Meyer@ncsu.edu.

4. **Minor in Business Management**

The Department of Business Management offers a minor in Business Management to undergraduates other than those majoring in the B.S. degree in Accounting (ACC). Students majoring in Textile and Apparel Management (TXM) or Agricultural Business Management (ABM, BBM) must meet the standard course requirements for the Business Management Minor including at least three courses (9 credit hours) that are not required courses for their major (or part of a list of alternative courses that meet a major requirement).

**Objectives**

Students who fulfill the requirements for the undergraduate Minor in Business Management will:

1. possess an overview understanding of the main business disciplines (accounting, human resource management, information systems management, finance, business and regulatory law, marketing, operations management, and organizational behavior)
2. have a rudimentary understanding of the fundamentals of financial and managerial accounting
3. possess some depth of knowledge in one or more business disciplines chosen by the student
4. own the knowledge to apprehend the ever-changing business environment and make business decisions within this context.

**Admission to Minor**

Students must submit their applications for a Minor in Business Management (available in 114 Nelson) to the Office of Academic Affairs, 114 Nelson Hall, no later than the business day preceding the first day of classes of student’s final semester. To be admitted to the program, a student must have a GPA of at least 2.0. Should a student wish to count transfer credits towards the Minor at the time of application, the student must also submit an Advanced Standing Certificate (ASC) showing the transfer credit.
The Program of Study
The Minor in Business Management requires a minimum of 15 hours chosen as follows:

- ACC 280 - Managerial Accounting 3 hours
- BUS 201 - Introduction to Business Processes 3 hours
- Plus any three 300- or 400-level BUS courses 9 hours

15 hours

Students may not take Minor coursework on a credit only (pass/fail) basis. The Office of Academic Affairs, which must approve any transfer credits taken toward the minor, will count at most three hours of transfer credits towards this program.

Certification of the Minor
Students must earn at least a 2.0 GPA in their Minor coursework to be certified for a Minor.

5. Minor in Economics

Admission to the Minor
The undergraduate Minor in Economics is open to all undergraduate majors outside the Department of Economics with the exception of students enrolled in the B.A. degrees in Accounting or Business Management. (Note: Students enrolled in the B.S. degrees in Accounting and Business Management are eligible for the minor).

Objectives
As a result of completing the minor in Economics the student will:
1. develop an understanding of the micro and Macro branches of economic theory as well as applied fields of economic analysis
2. understand why decisions that are made by nations and individuals in a constantly changing business environment have the effects that they do
3. learn to apply economics to contemporary problems faced by institutions in the world of business and the economy in general
4. develop analytical and problem solving skills.

Certification of the Minor
Students must submit the application for a Minor in Economics after registering for their final semester. The application (available outside 114 Nelson) must be submitted to the Office of Academic Affairs, 114 Nelson Hall before the beginning of the student’s final semester. (In the event transfer credits contribute to the completion of the minor, a copy of the Advanced Standing Certificate (ASC) showing transfer credits must also be submitted).

Certification requires an overall GPA of 2.0 or better in all EC, ECG, and ARE courses (including economics courses with the EB prefix) attempted at NC State. Courses credited to the minor may not be taken for credit only (pass/fail).
At least three 300-, 400-, and 500-level courses must be completed in residence at NC State, and all transfer credits must be approved by Academic Affairs.

Questions concerning admission, course requirements, certification of the minor, etc. should be addressed to the Office of Academic Affairs, 114 Nelson Hall, 515-5565. Students may register for the minor in 114 Nelson Hall; registered minors will be assigned to an academic advisor for their minor program.

Program of Study
The minor in Economics requires a minimum of 15 hours as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 205 - Fundamentals of Economics (EC 201 may substitute for EC 205)</td>
<td>3</td>
</tr>
<tr>
<td>EC/ARE 301 - Intermediate Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>EC 302 - Intermediate Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Select 2 courses from 300 and 400 level EC courses (except EC/ARE 401) and 500 level ECG courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### 6. Minor in Parks, Recreation, and Tourism Management

Requirements: Six hours of required courses and nine hours of electives.

**Required Courses (6 hours)**

- PRTM 152 - Introduction to Recreation (3 hours)
- PRTM 358 - The Recreation Program (Preq. PRTM 152) (3 hours)

**Elective Courses (9 hours)**

- PRTM 200 - Exploring Leisure Alternatives (3 hrs)
- PRTM 215 - Park and Recreation Maintenance Management (Preq. PRTM 152) (3 hrs)
- PRTM 216 - Managing Park and Recreation Facilities (Preq. PRTM 152) (3 hrs)
- PRTM 220 - Commercial Recreation and Tourism (Preq. PRTM 152) (3 hrs)
- PRTM 238 - Inclusive Recreation (Preq. PRTM 152) (3 hours)
- PRTM 320 - Convention and Visitor Services (Preq. PRTM 152) (3 hrs)
- PRTM 350 - Outdoor Recreation Management (Preq. PRTM 152) (3 hrs)
- PRTM 353 - Camp Administration (Preq. PRTM 152) (3 hrs)
- PRTM 365 - Arts Management in Recreation (junior standing) (3 hrs)
- PRTM 366 - Administration of Recreation Sports Programs (Preq PRTM 358) (3 hrs)
- PRTM 420 - Resort Management and Operations (Preq. PRTM 152) (3 hrs)
- PRTM 442 - Recreation and Park Interpretive Service (junior standing) (3 hrs)
- PRTM 451 - Principles of Recreation Planning and Facility Development (Preq. PRTM 358) (3 hrs)
- PRTM (LAR) 462 - Computer Cartography (Preq. CI) (3 hrs)
7. Minor in Wood Products

The Department of Forest Biomaterials offers a minor in Wood Products (WP) to all undergraduates enrolled in the University as degree candidates, except WP majors. The minor will provide students with basic understanding of the anatomical, physical, and mechanical properties of wood and the processes used in converting wood into the multitude of available wood products.

Objectives
1. Provide the students majoring in associated fields a means of obtaining a basic understand of wood properties and processing.
2. Develop student awareness of the physical properties of wood and the relationships between properties and in-service performance of wood products.
3. Provide undergraduates who have an avocational interest in wood the opportunity to obtain more basic knowledge about the material.

Program of Study
The WP minor requires completion of 5 courses, 3 of which are designated as required. The two elective courses are elected from a list of 6 courses. Due to the various semester credit hours of the elective courses, the semester hours required for a minor in Wood Products may be as low as 17 or as high as 20.

1. Required Courses (11 semester hours)
   - WPS 202 (3) Wood Anatomy and Properties
   - WPS 203 (4) Wood Physical Properties
   - WPS 302 (4) Wood Processing II

2. Elective Courses (minimum of two courses required)
   - WPS 205 (5) Wood Products Practicum
   - WPS 301 (4) Wood Processing I
   - WPS 319 (3) Principals of Wood Science
   - WPS 344 (3) Introduction to Quality Control in Wood Products
   - WPS 441 (4) Wood Mechanics
   - WPS 444 (3) Wood Composites

Certification
The application for the minor in Wood Products has to be submitted to the minor advisor prior to the Pre-registration deadline for the student’s final semester. The individual serving as advisor for the WP minor may be contacted at:

Department of Forest Biomaterials
1022 Biltmore Hall
515-5735
F. Dual Degree Programs

Students in FOM or NR desiring to major in a second area of interest may develop a dual baccalaureate degree program. You may enroll in a second undergraduate degree in any department of the university that will accept you as a degree candidate in the desired second degree. You should first discuss the second degree option with your assigned advisor or with another Departmental advisor (or another faculty member) who through background and experience is familiar with the degree and its advantages/disadvantages to your education and career opportunities.

To enroll in a second degree, contact the department that offers the degree and if accepted, enroll in that program as a second degree. You will be assigned an advisor in the second degree to guide you in course selection. You should also notify Mrs. Yvonne Lee, Dr. Gary Blank, and your assigned advisor in the Department. You should also provide each advisor with a current copy of the curriculum outline for the "other" curriculum and in conjunction with them, develop a plan for coordinating course selection to complete both degrees as efficiently as possible. Dropping the second degree program is possible at any time without penalty. You will be awarded the diploma for each degree when you complete its requirements.

The number of total additional credits (in addition to the first degree) required to complete a second degree may range from as low as about 25-30 to as high as 60-65 depending on commonality of required courses, appropriate substitutions of similar courses, and use of electives in each curriculum to satisfy core courses in the other. Thus a second degree that is not very dissimilar to the first may easily be completed in one or two additional semesters. The decision to pursue a dual degree should be made as soon as possible to allow scheduling of the proper course sequences in the early semesters of each curriculum.

A specific dual degree program must be planned with the appropriate advisors. However, a sample of additional courses and credits required to complete a second degree in Wood products in conjunction with Forest Management is shown below.
G. Pinchot Scholars Program

The Pinchot Scholars Program combines a focus in the technical field of forestry with the breadth of a solid liberal arts education. Students enrolled in the Pinchot Program will pursue simultaneously a BS degree in Forest Management through the College of Natural Resources (CNR) and a BA degree in a major in humanities and social sciences through the College of Humanities and Social Sciences (CHASS). The theme of the BA degree will combine forestry with a choice of one or two related liberal arts topics, international relations or political science and public policy. Each student will have an advisory group of mentors to assist in developing his/her course plan and to provide counsel. The Pinchot Scholars Program is limited to a small number of highly qualified and motivated students who will be selected by the Department of Forestry and Environmental Resources from those who apply. A scholarship program has been developed specifically for the Pinchot Scholars and the first scholarship was offered in the Fall of 1995. Interested students please contact Sarah Warren at 515-7996 or sarah_warren@ncsu.edu

Advisory Group: Mentors, Academic Advisors, and Students. - Each scholar will be assigned a mentor from forest industry and two faculty advisors, one from CFR and one from CHASS. The mentor, advisors, and student will comprise the advisory group. The purpose of the mentors is to counsel students in their journey through college, provide feedback on program effectiveness, and help raise financial support for the program. The academic advisors will help the students with academic concerns. The advisory group will meet at least once per academic year. For additional information, contact Erin Sills at 515-7784, at 3112 Jordan Hall, or at Erin_Sills@ncsu.edu

H. Cooperative Education Program

1. General information:

Cooperative Education gives students the practical experience necessary for them to fully
understand the importance of what they are studying for the Cooperative Education Program is a plan created in which the student's educational goals are enhanced by carefully scheduling and integrating periods of academic study with periods of employment related to the student's field of interest.

The Co-op program in the College of Forest Resources is voluntary and includes curricula in Forest Management, Natural Resources, Environmental Technology & Management, Recreation, and Forest Biomaterials. To be eligible, students must achieve a 2.25 grade point average (GPA) out of a possible 4.0. To remain in the program, they must maintain a 2.0 GPA and perform satisfactorily in the work assignments. Most forestry Co-op employers prefer students to begin after Summer Camp is completed, but some employers will take students into the Co-op program after the freshman year.

Mr. Joe Cox, Co-op Placement Coordinator (515-7576).

The Co-op program provides students several benefits. Some of these are:

a) **Practical experience.** Students have the opportunity to learn practical applications along with their classroom experiences. This practical experience often helps students with their course work by providing fuller and deeper insight to their classroom exercises as a result of having actually experienced related work. Because employers value this experience, co-op graduates have an advantage when competing for employment and they usually start at salaries higher than those of the non-cooperative education graduate.

b) **Self-confidence.** By the time of graduation, Co-op students have had the opportunity to develop self-confidence in actual work situations in their chosen professional field. As a result, they are not confronted suddenly with an abrupt change from an academic environment to the real world of employment.

c) **Human Relations.** Co-op students have the opportunity to learn directly about human relations in the business and industrial world. Such experiences are of increasing value as professionals from many areas become more involved in dealing with current sociological problems.

d) **Financial.** Co-op students have the opportunity to earn a substantial part of their educational expenses. Thus, the additional time and investment required in the program is offset by the students’ co-op employment earnings.

e) **Improved Employment Opportunities and Earning Power.** Many companies make it a practice only to hire persons with whom they have had some previous work experience through a co-op arrangement. Thus, co-op experience may be of great value in obtaining employment. In addition, University data indicate that co-op participants are more likely to obtain permanent employment immediately upon graduation and they also have higher beginning salaries than students who do not participate in co-op programs.
2. Program Entry Requirements:
   
a) The Cooperative Education Program is voluntary for students in the College of Natural Resources

b) Full-time enrollment during the semester prior to first work term

c) Completion of at least two semesters at NCSU (one semester for transfers and graduate students); NCSU transcript must show grades and admission to a degree program

d) Minimum GPA of 2.25 (3.00 for graduate students)

e) Attendance at a Cooperative Education orientation meeting administered by the NCSU Cooperative Education Program located at:

   212 Peele Hall
   Box 7110
   Raleigh, NC 27695-7110
   Main Office Number: 919/515-2300
   FAX: 919/515-7444

f) In addition to meeting the minimum requirements for the Co-op Program, international students (F1 or J1 visa) must:

   i) attend a practical training session at the International Student Office (ISO),
   ii) complete nine months of consecutive enrollment in classes prior to beginning co-op work, and
   iii) obtain written approval of their academic advisor or graduate coordinator.

   Undergraduate international students may not apply for the program once they have attained senior standing unless they already have a job offer.

I. Study Abroad

There are opportunities to study abroad for the summer, for the semester, or for an entire year. You can earn credits towards your degree, and financial aid and scholarships are available. If you are interested in study abroad, you should start planning early (preferably two years in advance) in order to find the best program and to plan your courses. Students in the Department of Forestry and Environmental Resources have studied in diverse settings, including Mexico, Nicaragua, Costa Rica, Ecuador, Sweden, Finland, Nepal, and Australia. In some cases, you may want to postpone GER courses and take them while you are abroad; in other cases, you can plan to complete specific requirements of your curriculum while studying abroad. The Department of Forestry and Environmental Resources offers scholarships for study abroad on fund availability. These scholarships are due to the Study Abroad Office at the end of February.

To plan for your study abroad experience, the steps are to:
1. Visit the study abroad web site:

   http://cnr.ncsu.edu/international/study_abroad.php

2. Discuss options with your academic advisor

3. Attend one of the orientation sessions offered by the Study Abroad Office in 2118 Pullen Hall.

For general information, you can contact Dr. Erin Sills, Director of International Forestry Programs, 3112 Jordan Hall, erin_sills@ncsu.edu, (515-7784).
A. General

This section covers several academic programs and policies that are particularly important to the students' development and advancement. Such policies and programs are covered in depth in the Student Handbook, in the Undergraduate Catalog and in the Advisor's Handbook (which all Advisors have). The Student Handbook and the Advisor's Handbook, available on the web, are updated annually and, thus may be more current than the Undergraduate Catalog. Also discussed here are certain departmental policies that apply to all students.

B. Academic Advising

Each undergraduate student is assigned an academic advisor. The advisor assists the student in three areas:
1) striving for academic excellence,
2) completion of the program in four years, and
3) professional development.

The entire objective of the advisor-advisee relationship is to insure that the student receives the best educational experience possible.

Incoming four-year students are assigned to an advisor when they enter NCSU. The student may stay with that advisor for the duration of his/her program at NCSU. If, for any reason, the student wishes to change advisors, that may be done by contacting Dr. Blank. In addition, when a student makes a decision regarding use of electives he or she may change to an advisor with particular expertise in that area. In this way the student may gain additional insight and perhaps even learn about job opportunities in the chosen concentration.

Current undergraduate advisors in the Department of Forestry and Environmental Resources, together with office and telephone numbers and areas of expertise, are listed in Chapter 2.

The major duties of the advisor are related to the academic program. It is the advisor's responsibility to make sure that students are aware of the Department's academic requirements. In addition it is the advisor's responsibility to provide sufficient information and adequate guidance so that the student can make intelligent decisions about his or her program. The final responsibility, however, for most decisions regarding registration and completion of degree requirements is the student's. Decisions regarding the program should be made in private meetings between the advisor and student. Such meetings between each student and his or her advisor are mandatory during preregistration periods. The student's personal identification number (P.I.N.) required for registration is issued by the advisor only.

During the Summer orientation period, an opportunity will be provided for each student and advisor to meet, become acquainted, answer questions, and let the advisor explain his responsibilities.
C. Honors Program

The Honors Program provides special challenges and recognition for students with excellent academic records.

**Admission:** The minimum admission requirement is an overall GPA of 3.0 and 3.25 in major after at least 40 credit hours at NCSU or as transfer from another institution. See details at this web site:

[http://www.ncsu.edu/university_honors/](http://www.ncsu.edu/university_honors/)

**Coursework:** A minimum of 9 credit hours as required:

1) Three (3) credit hours of 200-level or higher honors courses, or graduate level courses that are electives, or other courses designated as appropriate by the college or department.
2) Two (2) credit hours of CNR 490 Senior Honors Seminar. This will be offered in the Spring Semester each year. In the latter part of the seminar, students will be required to give an oral presentation of their senior honors independent study.
3) Four (4) credit hours of senior honors independent study that includes a written thesis, paper, or laboratory report that is guided by a CNR faculty member. The student and his/her advisor will decide whether the independent study will be for a grade or for credit only.

Interested students should contact Dr. Kirkman or Dr. Blank.

D. Personal Standards of Professionalism and Behavior

Because forestry and natural resources are professions requiring the highest degree of dedication and professionalism in their practitioners, the faculty of the Department of Forestry and Environmental Resources expect that all students enrolled in its programs will behave at all times so as to reflect favorably on themselves, their University and their profession. Conformity to this high standard of personal and professional behavior is extremely important to the student when seeking a job, as many employers rank personal traits as highly as professional skills and technical knowledge when evaluating students as potential employees. Any student who violates the Department's standards of personal and professional behavior is subject to appropriate action by the faculty and/or department head. The student Honor Code and Student Judicial System are listed on the Web at:


Students are expected to abide by and support the Student Honor Code.
E. E-Mail List for Undergraduates

The Department has set up an e-mail list for undergraduate students. There is a separate list for each class; i.e., fer_freshmen@lists.ncsu.edu, fer_sophomores@lists.ncsu.edu, fer_juniors@lists.ncsu.edu, fer_seniors@lists.ncsu.edu. **You should monitor your email frequently as messages may be posted which might be of importance to you.** The mailing lists are for official department use only, including academic and research purposes. Personal and commercial uses are not allowed on the listserv. Users are expected to conduct themselves professionally and with courtesy to other users. If you are not receiving departmental information emails, please contact Sydna Willis in 3136H Jordan Hall, 515-7560 or sydna_willis@ncsu.edu.

F. Use of Tobacco Products

Biltmore Hall, Robertson Wing, Hodges Lab, Jordan Hall and Jordan Annex are smoke free buildings. Use of all tobacco products is prohibited.

G. Grading and Attendance

Departmental requirements for grading and attendance in class are no different from those of the University generally. The grading system is that described in the Undergraduate Catalog and on the Web. How grades are determined in each course will be explained in writing by the instructor at the beginning of the course.

Attendance policies are repeated here for emphasis:

**NOTE: Unless otherwise stated by the instructor, regular attendance at classes, laboratory periods and examinations is expected of all students.**

1. Excuses for anticipated or emergency absences shall be accepted at the discretion of the instructor. When an excuse is accepted, an opportunity shall be provided for making up any work missed. When an excuse is not accepted, there is no obligation to provide an opportunity for makeup work.

   a) Excuses for anticipated absences must be cleared with the instructor before the absence.

      Examples of anticipated absences are:

      i) University duties or university trips as certified by an appropriate member of the faculty or staff
      ii) Required court attendance as certified by the Clerk of Court.
      iii) Religious observations as certified by the Dept. of Student Development
      iv) Required military duty as certified by the student’s commanding officer

   b) Excuses for emergency absences must be reported to the instructor as soon as possible but not more than one week after the return to class.
Examples of emergency absences:

i) Illness or injury when certified by an attending physician.
ii) Death or serious illness in the family when certified appropriately.

NOTE: Physicians on the Student Health Service staff do not provide written excuses. An instructor may call Clark Hall Infirmary to verify that a student was seen on a given date. The counseling Center does not provide written excuses except in cases of crises. An attempt to verify deaths or serious illness will be made by Student Development at the request of the instructor.

2. Each instructor at the beginning of the semester shall explain how attendance policy is to be implemented in each class. Procedures for submitting excuses and for scheduling makeup work when the excuses are accepted should be clearly defined.

3. Students who discontinue class attendance without officially dropping the course or withdrawing from the University will receive an F grade.

4. Instructors will counsel directly with students whose absences are adversely affecting their performance.

5. University policy requires that a record of attendance be kept in all 100 and 200 level courses and provides for penalties assessed against grades for poor class attendance. Each instructor's policy will be clearly defined in the course syllabus. When it becomes apparent that excessive absenteeism is contributing to poor performance in a course, the instructor will refer the student to his/her advisor and to the Department Head for counseling.

H. Academic Advancement

All students should be thoroughly familiar with the Academic Warning, Academic Suspension and First-Year Course Repeat policy. They are designed to ensure adequate progress in a degree program. STUDENTS ARE CAUTIONED TO BECOME VERY FAMILIAR WITH THE UNIVERSITY STEP-WISE GRADE POINT AVERAGE ACADEMIC SUSPENSION POLICY. It can be very difficult for a student whose GPA is near the minimum for good academic standing with a high number of credit hours to achieve the substantial improvement in academic performance needed to remain in good standing. New transfer students in particular should be aware that the credit hour steps include the total of credit hours attempted at NCSU plus those transferred.

First Year Course Repeat Policy

The first-year course repeat policy is a policy of forgiveness that helps new NCSU undergraduate students maintain good academic standing. The policy is necessary because new students lack familiarity with the University, and as a result, they are more likely to make errors in their choice of courses and total course load.
The policy allows each new student to retake up to 8 credits of 100/200 level courses with D or F grades and have the first grade removed from computation of the GPA. It is in your best interest to use this policy if needed. The full policy statement is included below for emphasis.

**Course Repeat Policy Effects**

1. The eligible student who repeats a course while electing that the first-year course repeat policy apply will have the grade points and the credit hours attempted and earned on the first completion of the course removed from the calculation of the cumulative grade point average and from the calculation of the total hours attempted regardless of the grade earned on the second attempt. The modification of the cumulative grade point average which will result from the removal of the grade points and credit hours attempted and earned on the first completion of the course will be calculated and recorded on the student’s record after the second completion of the course.

2. The course title and grade for the first completion will be shown on the official record with a code (R) to indicate that it was repeated and that the first grade was removed from the computation of the cumulative grade point average.

3. The recorded grade point average of the student for the semester in which the course was originally taken will not be changed.

4. Repeating a course and exercising the first-year course repeat policy does not retroactively change the status of the student as to semester academic honors, academic warning, probation, or suspension in prior semesters.

5. Many graduate and professional schools re-compute grade point averages in the process of considering an applicant for admission to such programs. This re-computation of grade point averages may include restoring the cumulative grade point average effects of initial attempts at courses repeated under this policy.

**Eligibility**

1. the initial attempt and the repeat under this policy must be a NCSU course;
2. the course being repeated was completed for the first time after the Summer Session II 1995;
3. the course being repeated must be at the 100- or 200-level;
4. the student received a grade below C- in the course that is repeated;
5. both attempts of the course were for letter grades; no unsuccessful audits or credit-only attempts may be repeated nor may repeats under the policy be made for audit or credit-only;
6. the student has not received credit for an advanced course dealing with the same subject matter as the course being repeated; and,
7. the first attempt of the course must have occurred within 12 months of the student’s initial enrollment in any classification at NCSU; this period is not lengthened by voluntary or involuntary failure to enroll in subsequent semesters or summer sessions, nor by enrolling at less than a minimum full-time load following the initial date of enrollment;
8. the second attempts is for the same course or for an approved substitute course (see “Listing of Approved Substitute Courses for the First Year Course Repeat Policy”);
9. the second attempt occurs in a regular semester or summer session which ends within 12 months of the completion of the first attempt of the course; if the course is not available during that period or if the student is not enrolled when it is available, then the second attempt must occur in the next regular semester during which the student is enrolled at NCSU and the course is available;
10. the total number of courses repeated by the student under this policy will not exceed two (2) courses nor will the total of hours of such courses exceed eight (8) hours, nor will the total number of courses repeated under this policy combined with those repeated under the Course Repeat Without Penalty Policy exceed three (3) courses, nor will the total hours of such courses exceed twelve (12) hours;
11. the Notice of Exercise of First Year Course Repeat Policy is filed by the student with the Department of Registration and Records on or before the “last day to drop a course without a grade for courses at the 400 level and below” of the semester or summer session in which the course is repeated.

Procedures

1. Students are advised to consult with their academic advisors in making the decision to elect a course repeat under this policy.
2. The student must submit a Notice of Exercise of First Year Course Repeat Policy to the Department of Registration and Records on or before the last day to drop a course without a grade at the 400 level or below of the semester or summer session in which the course is repeated. Forms may be obtained from faculty advisors, departmental coordinators of advising, associate deans for academic programs, and the Department of Registration and Records.

Warning Regarding Timing of Filing Necessary Forms

This policy requires the election of the repeat under the policy be made early in the semester during which the repeat of the course is being attempted. Thus, requests to either apply the course repeat policy to a course repeated in a prior semester, or to reverse a prior application of the repeat policy are inconsistent with the policy.

Expected Duration of This Policy

The First-Year Course Repeat Policy has been indefinitely extended unless specific academic policy revisions occur to the contrary. However, eligible courses taken the first year at NCSU may be repeated under this policy within 12 months of the end of the term in which first attempted with provisions consistent with Eligibility Item 9 above.

The First-Year Course Repeat Policy listed on the web at:

http://www.ncsu.edu/uap/resources/courserp/forgive/fycr/oldreg.htm
### Listing of Approved Substitute Courses for the Course Repeat Without Penalty and the First Year Repeat Policies

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### I. University Graduation Requirements

1. The student is responsible for completing all the course requirements for graduation in his / her program **prior to applying for graduation.**

2. Undergraduate residence requirement for all students:
To be eligible for a bachelor's degree, a student must be enrolled in a degree program and must have earned at least 30 of his/her last 45 hours of credit through NCSU courses. Individual departments and/or colleges may have additional residence requirements.

3. Overall grade point average of 2.0 on all courses

4. See curriculum footnotes for additional graduation requirements specific to each curriculum.

J. Computers

The Department requires that all students graduating from the undergraduate program be competent in the use of computers.

To assist the student toward meeting this goal the College of Natural Resources maintains two computer labs; one in room 3032 Biltmore, one in 5103 Jordan Hall and one in 3214 Jordan Addition. The Biltmore lab is available for use seven days a week to provide the student with the facilities necessary to develop and expand computing skills. Because of the intensive use of the computer lab, students who may wish to do so are encouraged to consider purchasing a personal computer. The university bookstore sells computers at significant discounts off retail prices. It is suggested that students discuss computer needs with Dr. Blank (515-7566) prior to making purchases.

Students interested in buying a computer have several options to follow. The following list summarizes options from the minimum to the best. Used computers can also be a good deal, but make sure they are at least 50% less expensive than a comparable new computer.

| Minimum |
|-----------------|-----------------|
| Processor       | Intel Core 2 Duo or AMD X2 Dual Core or Intel Core 2 Duo for Mac |
| RAM             | 4 GB |
| Optical Drive   | DVD+RW |
| Hard Drive      | 320 GB or 128 GB for Mac |
| Operating System| Windows 7 Professional or OS X v.10.7 for Mac |

All other information and specifications regarding your personal computer requirements can be found at: [http://www.ncsu.edu/it/essentials/your_computer/hardware_specs/new_computer.html](http://www.ncsu.edu/it/essentials/your_computer/hardware_specs/new_computer.html)
K. Computer Lab

The College of Natural Resources has one of the most modern instructional computer labs on the NCSU campus. Located on the third floor of Biltmore Hall (Room 3032) and third floor of Jordan Addition (Room 3214), these facilities are fully networked to the LAN (local area network) and interfaces with campus network system and all Internet resources. Since all PC’s and workstations are connected to the Internet, students have easy access to web browsers (Netscape, etc.) and to their e-mail accounts.

L. English Communications

The Department also requires that each graduate be competent in English communication. This objective is achieved by requiring grades of C or better in ENG 101 and by stressing communication skills in all forestry and natural resources courses. Papers and exams are graded by the instructor for adequacy of expression and quality of grammar and spelling as well as for their technical content. In cases where instructors detect communication deficiencies that impair a student’s professional development, appropriate remedial steps should be taken, including referral to the English Department.

M. Use of Equipment and Issuance of Keys

In the course of their laboratory and summer camp work, students use large amounts of equipment purchased with public tax funds. Students are responsible for the careful use of equipment and for the return of all items. Appropriate charges are made for lost and/or broken equipment. Failure to pay such charges will result in the withholding of grades and/or diploma. Similar penalties will be applied for failure to return keys to College facilities charged out to individuals.

N. Tutorial Services

Academic support services including individual tutors, review sessions, and group tutoring are available for a wide variety of courses. For assistance with most basic 100 and 200 level courses, contact the appropriate university or department support service listed below. Free tutoring assistance is provided by the College of Natural Resources for FOR, ETM, SFW or NR courses or for other 300 and 400 level courses for which tutoring services are not available. For more information, contact Mrs. Angie Barefoot, Academic Dean’s office, 2018 Biltmore Hall, phone 515-6191.

In addition, a number of other University units provide tutorial assistance for students; these units are listed on the web at:

http://www.ncsu.edu/tutorial_center
O. 25% Tuition Surcharge

All undergraduate students since the Fall of 1995 semester and thereafter are subject to a 25% tuition surcharge for all credit hours attempted in excess of 140 or 110% of the student’s academic program, whichever is greater.

Credit hours to be counted:

- All regular session degree-creditable hours attempted at NCSU; including failed courses, course-repeat-without-penalty courses, and courses dropped with a “W” grade.
- All transfer credit accepted by NCSU, which is used to satisfy degree requirements, as defined by the student’s Automated Degree Audit.

Credit hours to be excluded:

- NCSU summer session courses (Summer Camp)
- Advanced placement credit through AP, CLEP, or credit by examination
- NCSU off-campus extension courses
- ROTC credits earned in reserve officer training courses (AS, MS, NS)
- Summer session and off-campus extension transfer credit from all UNC system institutions.

Students subject to surcharge:

- Students earning a first baccalaureate degree in a program that requires no more than 128 credit hours will be subject to the surcharge after having completed eight or more regular semesters at any institution. Students enrolled in the cooperative extension program are registered for zero hours, which will not add to the semesters enrolled. Work completed in summer sessions or off-campus extension will not count towards the eight semesters.

For students earning a first baccalaureate degree in a program that requires no more than 128 credit hours, the surcharge shall be applied to all counted credit hours in excess of 140. The surcharge will be applied only to those hours in excess of 140.

Programs considered to be in excess of 128 credit hours will be limited to the following:

- Students in the Bachelor of Landscape Architecture (BLA) are required to complete 157 hours. They will be subject to the surcharge after having completed 10 semesters for all counted credit hours in excess of 173.

- Students pursuing multiple degrees and minors will be subject to the surcharge for all counted credit hours in excess of 140 or 110% of that required for the degree(s), whichever is greater. Hours required for the degree(s) are defined as the number of hours required for the primary degree plus all hours completed that are creditable towards the minor(s) or additional
degree(s) but are non-degree-creditable towards the primary degree, as defined by the student’s Automated Degree Audit. Students pursuing programs requiring more than 128 hours will be subject to the surcharge only after having completed 10 full-time semesters.

- Students pursuing a baccalaureate degree other than their first will be subject to the surcharge or all counted credit hours in excess of 140 or 110% of that required for the additional degree as defined by the student’s Automated Degree Audit, whichever is greater. Students pursuing a baccalaureate degree other than their first will be subject to the surcharge only after having completed 2 semesters subsequent to the previous baccalaureate degree.

P. Counseling

The Counseling Center assists individuals in gaining a better understanding of themselves. Psychologists, professional counselors, and psychiatrists are available to work with students who desire assistance with concerns such as choosing a career, academic planning, identifying and overcoming educational difficulties, developing greater self-understanding, developing more satisfying personal relations, and coping with stress or emotional crisis. All counseling is strictly confidential.

In addition to individual counseling, workshops and support groups are offered throughout the year in a variety of areas, including vocational exploration and stress reduction.

The Counseling Center is located in Room 2401 of the Student Health Center and maintains evening hours several evenings each week. Both day and limited evening appointments may be scheduled by calling (919) 515-2423.

Q. Collection of Student Course Work for Use in Program Assessment

The faculty-approved Department of Forestry and Environmental Resources Program Assessment Plans call for samples of student written work to be collected to assess undergraduate program performance. While the Department has not yet initiated portfolio assessment, our assessment plan states that portfolios of student work will be collected and reviewed at five-year intervals. Logistics of that component in the program assessment plan remain to be determined, but individual assignments and examples of work across the curriculum spread may be gathered to evaluate performance concerning any of the learning outcomes articulated for the several curricula in the Department.

All student generated materials collected from professors will be used anonymously, with individual students' names removed. All materials will be reviewed in cohorts to provide generalized evidence of degrees of achievement of program goals. Thus, individual students' work will not be isolated for use as examples; nor will sample review results be traceable to specific individuals. All results will be aggregated whenever reported, and materials will be disposed of in appropriate manner after their usefulness is past.

Further questions about program assessment may be directed to Dr. Gary B. Blank in the Department of Forestry and Environmental Resources.
CH. 6 SCHOLARSHIPS

Operating independently from the University Merit Awards Program, the Department of Forestry and Environmental Resources Scholarship Committee annually awards 4 types of scholarships: Academic, Forestry Summer Camp, Industrial, and Work-Study. Funds for these awards come from alumni donations, the Forestry Foundation, and timber sale receipts from the school’s forests. About 50 Academic Scholarships ranging between $3,000 and $5,000 each are awarded annually. Academic Scholarships are awarded from applicants with outstanding academic achievement in high school or college. A total grade point average of at least 3.3 is typically required, and academic scholarships are renewable, provided that superior progress is made towards a degree offered by the Department of Forestry. The following endowed Academic Scholarships are available: T. Clyde & Sally Watts Auman Scholarship; John M. and Sally Blalock Beard Academic Scholarship; Class of 1960 Endowed Scholarship; Felton F. Coley Scholarship; Edwin F. Conger Academic Scholarship; James L. Goodwin Academic Scholarship; T.G. Harris/J.P. Harper/Chesapeake Corporation Academic Scholarship; Hofmann Forest Academic Scholarship; G. Eddie Jackson Memorial Scholarship; J. Jarvis Endowed Scholarship; Larry G. & Elsie C. Jervis Academic Scholarship; R.B. & Irene Jordan Endowed Scholarship; William R. Poole Scholarship of Distinction; Stanford Adams-NC SAF Scholarship; William J. Barton and Alexander Calder, Jr. Industrial Forestry Scholarship; Robert and Regan Brown Scholarship; Camp Younts Foundation Fisheries and Wildlife Sciences Scholarship; Crescent Resources/Duke Energy Scholarship in Sustainable Forestry; Robert E. Dorward Memorial Scholarship; Dr. Donald and Jean Steenson Scholarship; Charles S. and Edith K. Sullivan Endowed Fisheries and Wildlife Sciences Scholarship; and Jonathan Wainhouse Memorial Scholarship.

About eight scholarships that range from $500 to $800 are available to students attending Forestry Summer Camp. The Maki-Gemmer-Johnson and the Victor W. Herlevich scholarships provide 2 awards of about $700 each and are awarded annually to applicants attending the next Forestry Summer Camp. The Ralph C. Bryant Scholarship, which provides 2 awards of $800 each, is awarded after summer camp to the students who exhibited superior academic and professional skills, while at camp.

The Scholarship Committee also awards Work-Study Scholarships, generally to Juniors and Seniors in Forest Management. Work-Study Scholarships, currently at $4, 032 each, carry a work requirement, generally satisfied on one of the college forests, and thus some forestry skill is generally required of recipients. The following Work-Study Scholarship is available - the James L. Goodwin Work Scholarship.

Forest Management (FOM); Natural Resources (NRE and NRP); Fisheries, Wildlife & Conservation Biology(SFW) and Environmental Technology & Management (ETM) students may apply for forestry scholarships by submitting an application, obtained from Dr. Richard R. Braham, Forestry Scholarship Committee Chairman, 3003 Biltmore Hall or from Sydna Willis in Room 3136H Jordan Hall. Applications are accepted at any time, but the Committee selects the next academic year’s scholarship recipients in May.
CH. 7 UNDERGRADUATE ORGANIZATIONS

Extracurricular activities of all sorts on the NCSU campus provide opportunities for personal and professional volunteer and service activities, and social events. Undergraduate organizations in the department provide a focal point for students to participate in extracurricular activities associated with their chosen curriculum and profession. All students are encouraged to support the undergraduate organizations of the Department of Forestry and Environmental Resources. Any student interested in an organization may contact the faculty advisor for more information.

A. Natural Resources Council

The council promotes unity among the students of the different departments of the College of Natural Resources, and considers and administers to individual and/or common interests of all students. It also manages the student funds that are allocated to the College of Natural Resources. The Council encourages cooperation and communication between the students and faculty in the College and serves as one unified voice of all the students of the College. Membership on the Council can be gained in one of two ways:

- one representative from each department in the College is elected by student ballot;
- one representative from each recognized club/organization of the College is selected.

The Associate Dean for Academic Affairs, Dr. Adrianna Kirkman, is the advisor to the Natural Resources Council (515-6191).

B. Forestry Club

The Forestry Club is a student professional and social organization that is open to all undergraduate and graduate students in the Department of Forestry and Environmental Resources and students from other programs who are interested in the Club's goals and programs. The objectives of the Forestry Club are to:

1) provide a forum for professional development of forestry and natural resources students,
2) represent the College of Natural Resources in college and university activities,
3) sponsor activities for inter-class fraternity and competition, and,
4) serve the public through volunteer community service projects.

The Club meets twice monthly in the evenings jointly with the Student Chapter of the Society of American Foresters to hear a guest speaker or other formal program on topical issues in forestry and natural resources. Some other Forestry Club activities include an annual inter-class competition in old-time logger's skills and modern forestry skills called the Rolleo, participation in the annual Conclave of the Association of Southern Forestry Clubs, participation in forestry skills competitions at several fall festivals and pig pickin's and other social events.

Faculty advisor to the Forestry Club is Dr. Joe Roise (joe_roise@ncsu.edu).
C. Xi Sigma Pi

Xi Sigma Pi is the National Forestry Honor Society, whose goal is to recognize and promote academic excellence in forestry education. Currently 42 universities have chapters. Mu Chapter at the Department of Forestry at NCSU is the only chapter in North Carolina, and one of only nine chapters in the South. The chapter at NCSU ranks among the oldest in the United States, since in 1940 it was the eleventh school to be granted a charter, and since it was the first school in the South. Membership is by invitation, and it is limited to academically gifted juniors, seniors, graduate students, and faculty.

Faculty advisor to Xi Sigma Pi is Dr. Richard Braham (515-7568).

D. Society of American Foresters - Student Chapter

The Society of American Foresters is the professional society for graduate foresters and sponsors student chapters open to undergraduate and graduate students in forestry. The Student Chapter of SAF at NCSU provides professional development opportunities and a means to network with professional foresters in a variety of organizations. The Student Chapter meets jointly with the Forestry Club twice monthly for meetings that feature guest speakers or other formal programs on topical issues in forestry and natural resources. The Student Chapter of SAF has strong affiliations with the Triangle Chapter, the North Carolina Division, and the Appalachian Section (NC, SC, & VA) of SAF and the department helps support attendance of student delegates at the annual regional and national conferences. Sponsoring and participating in public service activities and social events also promotes interaction among the students and faculty of the Department of Forestry.

Faculty advisor to the Student SAF Chapter is Dr. Joe Roise (joe_roise@ncsu.edu).

E. International Society of Tropical Foresters - Student Chapter

ISTF is open to all graduate and undergraduate students in the College of Natural Resources. The group encourages participation by anyone with experience or interest in tropical forestry or natural resource management issues. During the academic year, ISTF serves as a forum for discussing a wide variety of issues related to tropical forest utilization and conservation. Activities include a seminar series and brownbag lunches. In previous years, ISTF has sponsored field trips to Latin America, including Belize, Brazil, and Costa Rica.

Faculty advisor to the Student ISTF Chapter is Dr. Erin Sills (515-7784).

F. The Leopold Society

The NCSU Leopold Society is a campus club that also gets you membership into the North Carolina Wildlife Federation. The club meets every 2nd and 4th Tuesday in each month at 7:00 PM in Room 2211 Gardner Hall. Speakers come and talk about various topics pertaining to wildlife. Previous topics have included falconers, fishing guides, taxidermists, and decoy carvers, to name a few. Some of the exciting things that the club performs are campus squirrel box
checks, environmental programs at area elementary schools, Dixie Deer Classic, Conclave, camping trips and many more.

Faculty advisor to the Leopold Society is Dr. Chris Moorman (515-5578).

G. American Fisheries Society

The mission of this society is “to improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals.”

Faculty advisor to the American Fisheries Society is Dr. Joe Hightower (515-8836).

H. The Wildlife Society

This is an international nonprofit scientific and educational association dedicated to wildlife stewardship. The Wildlife Society was founded in 1937 and it seeks to help wildlife professionals conserve diversity, sustain productivity, and ensure responsible use of resources for the benefit of society. The members of the Wildlife Society are dedicated to sustainable management of wildlife resources and their habitats, and work to apply science and education to wildlife policy decisions.

Faculty advisor to the Wildlife Society is Dr. Chris Moorman (515-5578).