

NATURAL RESOURCE CONSERVATION

Conservationists protect and sustain our world's natural resources for future generations. Well-versed in economics and communications, Natural Resource Conservation students are equipped with strong analytical, critical thinking, and interpersonal skills. Natural Resource Conservation students study chemistry; biology; ecology; and forest, wildlife, fisheries, and aquatic resources.

About this Program

- **College:** Agricultural and Life Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/>)
- **Degree:** Bachelor of Science in Forest Resources and Conservation
- **Credits for Degree:** 120
- **Contact:** Email (khaselier@ufl.edu?Subject=Natural%20Resource%20Conservation%20Major)
- **More Info**

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Department of Wildlife Ecology and Conservation fosters education, expands knowledge, and rewards scholarship, using multi-disciplinary approaches for the purpose of understanding, managing, and conserving biological resources.

Website (<https://wec.ifas.ufl.edu/>)

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Map (<http://campusmap.ufl.edu/#/index/0832>)

Curriculum

- Combination Degrees
- Wildlife Ecology and Conservation
- Wildlife Ecology and Conservation Minor

The Natural Resource Conservation (NRC) major provides students an interdisciplinary curriculum preparing them to address a broad range of natural resource-related issues. The core set of courses provides students with a solid foundation in natural history (floral and faunal), ecology, policy and economics, field applications, quantitative assessment and analysis, human dimensions, and spatial analysis. Working with a faculty advisor, students can elect to focus on a wide range of natural resource-related courses. In the required capstone experience, students demonstrate their understanding and proficiency in the core skill sets, as well as further develop their area of concentration.

Graduates seek advanced degrees in a variety of fields, or are successfully employed in a wide range of environmental careers. The major is cooperatively offered by faculty in the School of Forest, Fisheries, and Geomatics Sciences, the Department of Wildlife Ecology and Conservation, and the Program in Fisheries and Aquatic Sciences, and students are paired with one of these faculty members to develop a curriculum that suits their needs. Students interested in more structured and/or accredited curricula in professional natural resource management are encouraged to look at majors in Forest Resources and Conservation, Wildlife Ecology and Conservation, or Interdisciplinary Studies | Marine Sciences.

All NRC majors are required to complete core work in nine content areas (minimum 25 credits): professional seminar, ecology, quantitative analysis and assessment, natural history, human dimensions, policy and economics, field applications, spatial analysis, and capstone experience. These courses embrace a variety of conservation objectives and span local to global scales. They stress the complexities in achieving social, environmental, and economic sustainability; develop critical thinking skills; create significant and valuable field experience; and provide the tools needed for graduates to manage, conserve, and educate people about natural resources.

Students work closely with a faculty advisor to select the remaining 35 upper-division credits to create a curriculum plan designed to meet the specific goals of each student. Each curriculum plan must be approved by the program's undergraduate coordinator before the student reaches 70 credits.

This major is also offered at the West Florida Research and Education Center in Milton, FL. Ideal for place-bound students, this version of the NRC major provides a broad ecology/conservation curriculum.

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<http://www.flvc.org/cpp/displayRecord.jsp?cip=030501&track=01>) may be used for transfer students.

Semester 1

- Complete at least 1 of 7 critical-tracking courses (excluding labs): AEB 2014 or ECO 2013 or ECO 2023, AEC 3030C or SPC 2608, AEC 3033C, BSC 2010/BSC 2010L, CHM 1030 or CHM 2045, MAC 1105, STA 2023
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete at least 2 additional critical-tracking courses, excluding labs
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete at least 2 additional critical-tracking course, excluding labs
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete at least 2 additional critical-tracking courses, excluding labs
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs
- 2.5 GPA required for all critical-tracking courses
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 6

- Complete 1 of the remaining required major courses from FNR 3131C or WIS 3402/WIS 3402L or FAS 4932 or ZOO 4205C, FOR 3200C, FNR 3410C, FOR 3202, FOR 3153C or WIS 3404, FNR 4624C, FNR 4660, FNR 4623C
- Submit faculty advisor-approved Curriculum Plan (<http://sfrc.ufl.edu/forest/degreeprograms/nrc/>)
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 7

- Complete 3 additional remaining required major courses from FNR 3131C or WIS 3402/WIS 3402L or FAS 4932 or ZOO 4205C, FOR 3200C, FNR 3410C, FOR 3202, FOR 3153C or WIS 3404, FNR 4624C, FNR 4660, FNR 4623C
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 8

- Complete all remaining required major courses from FNR 3131C or WIS 3402/WIS 3402L or FAS 4932 or ZOO 4205C, FOR 3200C, FNR 3410C, FOR 3202, FOR 3153C or WIS 3404, FNR 4624C, FNR 4660, FNR 4623C
- 2.0 upper division GPA required
- 2.0 UF GPA required

Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
Select one:		3
CHM 1030	Basic Chemistry Concepts and Applications 1 (Critical Tracking)	
CHM 2045	General Chemistry 1 (Critical Tracking ; Gen Ed Biological Sciences and Physical Sciences)	
FOR 2662	Forests for the Future (recommended; Gen Ed Social and Behavioral Sciences and Diversity)	3
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement		3
Elective		3
	Credits	15
Semester Two		
MAC 1105	Basic College Algebra (Critical Tracking ; State Core Gen Ed Mathematics) ¹	3
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking ; State Core Gen Ed Biological and Physical Sciences)	4
FAS 2024	Sustainable Fisheries (recommended; or elective)	3
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Elective		3
	Credits	16
Semester Three		
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences (Critical Tracking ; Writing Requirement) ²	3
STA 2023	Introduction to Statistics 1 (Critical Tracking ; Gen Ed Mathematics)	3
FOR 3004	Forests, Conservation and People (recommended; or elective)	3
Gen Ed Composition		3
Elective		2
	Credits	14
Semester Four		
Quest 2 (Gen Ed Physical Sciences)		3
Select one:		3-4
AEB 2014	Economic Issues, Food and You (Critical Tracking ; Gen Ed Social and Behavioral Sciences)	
ECO 2013	Principles of Macroeconomics (Critical Tracking ; Gen Ed Social and Behavioral Sciences)	
ECO 2023	Principles of Microeconomics (Critical Tracking ; Gen Ed Social and Behavioral Sciences)	
Select one:		3
AEC 3030C	Effective Oral Communication (Critical Tracking)	
SPC 2608	Introduction to Public Speaking (Critical Tracking)	
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Elective ³		3
	Credits	15-16
Summer After Semester Four		
Summer B		
Select one:		3
FOR 3200C	Foundations of Natural Resources and Conservation (Critical Tracking)	
FOR 4934	Topics in Natural Resources (Professional Practice in Natural Resources)	
	Credits	3
Semester Five		
Select one:		3-4
FAS 4202C	Biology of Fishes (Critical Tracking)	
FNR 3131C	Dendrology/Forest Plants (fall only; Critical Tracking)	
WIS 3402 & 3402L	Wildlife of Florida and Wildlife of Florida Laboratory (spring only; Critical Tracking)	
Select one:		3-4
FAS 4932	Topics in Fisheries and Aquatic Sciences (Applied Fisheries Statistics; Critical Tracking)	
FNR 3410C	Natural Resource Sampling (Critical Tracking)	
WIS 4601	Quantitative Wildlife Ecology	
WIS 4945	Wildlife Techniques	
Select one:		3-4

FAS 4270	Marine Ecological Processes	
FAS 4932	Topics in Fisheries and Aquatic Sciences (Freshwater Ecology)	
FOR 3153C	Forest Ecology (Critical Tracking)	
WIS 3404	Natural Resource Ecology (Critical Tracking)	
WIS 4443	Wetland Ecology	
FOR 3434C or GIS 3072C	Forest Resources Information Systems or Geographic Information Systems	3
Credits		12-15
Semester Six		
Select one:		3
FOR 3202	Society and Natural Resources (Critical Tracking)	
FOR 4060	Global Forests	
FOR 4934	Topics in Natural Resources (Environment and Society)	
Approved courses		12
Credits		15
Semester Seven		
Select one:		3
FAS 4305C	Introduction to Fishery Science	
FAS 4932	Topics in Fisheries and Aquatic Sciences (Field Ecology of Aquatic Organisms)	
FNR 4070C	Environmental Education Program Development	
FNR 4624C	Field Operations for Management of Ecosystems (Critical Tracking)	
FOR 3214 & 3214L	Fire Ecology and Management and Fire Ecology and Management Laboratory	
FOR 4664	Sustainable Ecotourism Development	
WIS 4427C	Wildlife Habitat Management	
FNR 4660 or FOR 4621	Natural Resource Policy and Economics (Critical Tracking) or Forest Economics and Management	3
Approved courses		9
Credits		15
Semester Eight		
Select one:		3
FAS 4905	Individual Study	
FOR 4905	Individual Study in Natural Resources	
FOR 4934 & FNR 4623C	Topics in Natural Resources and Integrated Natural Resource Management	
FOR 4941	Internship in Natural Resources	
WIS 4905	Individual Problems	
Approved courses		12
Credits		15
Total Credits		120

¹ Or higher level course.

² May substitute ENC 2210 or ENC 3254.

³ FAS 2024 recommended, if not already taken.

Approved Courses

Given the flexible, advisor/student-driven nature of this major, students may deviate significantly from this plan relative to course timing. As part of their curriculum plan, students are required to complete at least one course from the following nine content areas:

Code	Title	Credits
Professional Seminar		
FOR 3200C	Foundations of Natural Resources and Conservation	3
FOR 4934	Topics in Natural Resources (Professional Practice in Natural Resources)	1-4
Ecology		
FAS 4270	Marine Ecological Processes	3
FAS 4932	Topics in Fisheries and Aquatic Sciences (Freshwater Ecology)	1-4
FOR 3153C	Forest Ecology	3
WIS 3404	Natural Resource Ecology	3
WIS 4443	Wetland Ecology	3

Quantitative Analysis and Assessment

FAS 4932	Topics in Fisheries and Aquatic Sciences	1-4
FNR 3410C	Natural Resource Sampling	3
WIS 4601	Quantitative Wildlife Ecology	3
WIS 4935C	Wildlife Techniques	3

Natural History

FAS 4202C	Biology of Fishes	4
FNR 3131C	Dendrology/Forest Plants	3
WIS 3402 & 3402L	Wildlife of Florida and Wildlife of Florida Laboratory	4

Human Dimensions

FOR 3202	Society and Natural Resources	3
FOR 4060	Global Forests	3
FOR 4934	Topics in Natural Resources (Environment and Society)	1-4

Policy and Economics

FNR 4660	Natural Resource Policy and Economics	3
FOR 4621	Forest Economics and Management	4

Field Applications

FAS 4305C	Introduction to Fishery Science	3
FAS 4932	Topics in Fisheries and Aquatic Sciences (Field Ecology of Aquatic Organisms)	1-4
FNR 4070C	Environmental Education Program Development	3
FNR 4624C	Field Operations for Management of Ecosystems	3
FOR 3214 & 3214L	Fire Ecology and Management and Fire Ecology and Management Laboratory	3
FOR 4664	Sustainable Ecotourism Development	3
WIS 4427C	Wildlife Habitat Management	3

Spatial Analysis

FOR 3434C	Forest Resources Information Systems	3
GIS 3072C	Geographic Information Systems	3

Capstone Experience

FAS 4905	Individual Study	1-4
FOR 4905	Individual Study in Natural Resources	1-4
FOR 4934 & FNR 4623C	Topics in Natural Resources and Integrated Natural Resource Management (Integrated Management and Assessment)	6
FOR 4941	Internship in Natural Resources	1-4
WIS 4905	Individual Problems	1-4

The summer term between the junior and senior year is normally reserved for professional work experience.

Academic Learning Compact

The natural resource conservation major provides a broad education in the ecological, economic and social aspects of forest and natural resources and their management. The individualized nature of the major allows students to create a curriculum specific to their interests.

Before Graduating Students Must

- Pass the forest resources and conservation competency exam, given in five parts. One part will be given in each of these required courses:

Code	Title	Credits
FNR 3131C	Dendrology/Forest Plants	3
FNR 3410C	Natural Resource Sampling	3
FNR 4040C		
FNR 4623C	Integrated Natural Resource Management	3
FNR 4660	Natural Resource Policy and Economics	3

- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to**Student Learning Outcomes (SLOs)****Content**

1. Demonstrate competency in biology/ecology, quantification, policy/administration and management of natural resources.
2. Analyze, interpret, synthesize and communicate information and data, including the use of mathematical and statistical methods.

Critical Thinking

3. Solve novel problems in natural resource management.

Communication

4. Create, interpret and analyze written text, oral messages and multimedia presentations.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4
FOR 3153C	I	I	R	I
FOR 3200C	I	I	I	I
FOR 3202	I		R	R
FNR 3131C	I			I
FNR 3410C	I	I		
FNR 4623C	R	R	A	A
FNR 4624C	R	R		
FNR 4660	I		R	R
Exit Exam	A	A		

Assessment Types

- Group project
 - Presentation
 - Final exam
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