WATERSHED SCIENCE AND MANAGEMENT

Providing students with a solid understanding of ecology, this major prepares students to manage and develop forest areas for economic, recreational, and ecological purposes. Forest Resources and Conservation students study natural resource management and analysis, soil and water sciences, plant identification, law and policy, fire management, and natural resource economics.

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
- **Specializations:** Environmental Pre-Law (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/FRC_BSF/FRC_BSF01) | Forest Business Management (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/FRC_BSF/FRC_BSF02) | Forest Resource Management (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/FRC_BSF/FRC_BSF03) | Protected Areas Management (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/FRC_BSF/FRC_BSF04) | Recreation Resources Management (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/FRC_BSF/FRC_BSF05) | Watershed Science Management (p. 1)
- **Credits for Degree:** 120
- **Contact:** Email (khaselier@ufl.edu?Subject=Forest Resources and Conservation Major)
- **More Info**

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

School Information

The School of Forest, Fisheries, and Geomatics Sciences is a unit within the Institute of Food and Agricultural Sciences (IFAS) and the College of Agricultural and Life Sciences (CALS). The school is home to three distinct yet integrated program areas: Fisheries and Aquatic Sciences (http://sfrc.ufl.edu/fish), Forest Resources and Conservation (http://sfrc.ufl.edu/forest), and Geomatics (http://sfrc.ufl.edu/geomatics). The school's faculty, staff, and students conduct research, teaching, and extension that cuts across a wide range of environments and disciplines. Website (http://sfrc.ufl.edu)

CONTACT

Email (sfrc@ifas.ufl.edu) | 352.846.0850 (tel) | 352.392.1707 (fax)

P.O. Box 110410
1745 McCarty Drive
136 NEWINS-ZIEGLER HALL
GAINESVILLE FL 32611-0410
Map (http://campusmap.ufl.edu/#/index/0832)

Curriculum

- Combination Degrees
- Fire Ecology and Management Certificate
- Fisheries and Aquatic Sciences Minor
- Forest Resources and Conservation

- Forest Resources and Conservation Minor
- Geomatics
- Geomatics Certificate
- Mapping with Small Unmanned Aerial Systems Certificate
- Natural Resource Conservation

Related Programs

- Natural Resource Conservation

Specializations

Forest Resource Management

Accredited by the Society of American Foresters and is for students seeking careers as professional forest resource managers who apply science-based strategies to managing publicly and privately-owned forest lands.

Urban Forestry

Accredited by the Society of American Foresters and is for students with interests in forest management in the typically local-scale forests in urban-suburban landscapes, and at the interface of urban and undeveloped lands.

Environmental Pre-Law

Accredited by the Society of American Foresters and provides a solid basis of forest and natural resources science and management upon which is built a broad introduction to the policies, ethics, and processes affecting the use of natural resources.

Protected Areas Management

Accredited by the Society of American Foresters and is for students interested in managing lands for conservation and restoration purposes, usually on public lands managed by the government or by lands owned by private conservation organizations.

Recreation Resources Management

Accredited by the Society of American Foresters and focuses on the sustainable management of recreation lands as a natural resource and understanding human dimensions as related to their use.

Forest Business Management

Accredited by the Society of American Foresters and gives students a sound background in natural resource management and a broad introduction to business as appropriate for students interested in consulting, real estate or working for forest industry.

Watershed Science and Management

Prepares students to address the many and varied management issues associated with water resources, including wetlands, soils, policy, and water quality.

Watershed Science and Management

This specialization prepares students to address the many and varied management issues associated with water resources, including wetlands, soils, policy, and water quality.
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=02) may be used for transfer students.

Semester 1
- Complete 1 of 7 critical-tracking courses: 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 2 additional critical-tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3
- Complete 2 additional critical-tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4
- Complete 2 additional critical-tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5
- Complete all 7 critical-tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 6
- Complete 2 of the remaining required major courses: FNR 3131C, FOR 3200C, FNR 3410C, FOR 3202, FOR 3153C, FOR 3162C, FNR 4660, FNR 3020, FNR 4343C, FNR 4623C, FOR 3214
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 7
- Complete 3 additional remaining required major courses: FNR 3131C, FOR 3200C, FNR 3410C, FOR 3202, FOR 3153C, FOR 3162C, FNR 4660, FNR 3020, FNR 4343C, FNR 4623C, FOR 3214
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 8
- Complete all remaining required major courses
- 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Semester One</td>
<td></td>
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<tr>
<td>Quest 1 (Gen Ed Humanities)</td>
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<td>Select one:</td>
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<tr>
<td>CHM 1030</td>
<td>Basic Chemistry Concepts and Applications 1 (Critical Tracking; Gen Ed Biological and Physical Sciences)</td>
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<tr>
<td>CHM 2045</td>
<td>General Chemistry 1 (Critical Tracking; State Core Gen Ed Biological and Physical Sciences)</td>
<td>3</td>
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<tr>
<td>State Core Gen Ed Composition (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genecoursetext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genecoursetext</a>); Writing Requirement</td>
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<td>FOR 2662</td>
<td>Forests for the Future (Gen Ed Social and Behavioral Sciences; recommended course)</td>
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<tr>
<td>Elective</td>
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<td>Semester Two</td>
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<td>BSC 2010 &amp; 2010L</td>
<td>Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking; State Core Gen Ed Biological and Physical Sciences)</td>
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<tr>
<td>MAC 1105</td>
<td>Basic College Algebra (Critical Tracking; or higher; State Core Gen Ed Mathematics)</td>
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<tr>
<td>FAS 2024</td>
<td>Sustainable Fisheries (recommended elective)</td>
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<tr>
<td>State Core Gen Ed Social and Behavioral Sciences (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genecoursetext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genecoursetext</a>)</td>
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<tr>
<td>Elective</td>
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<td>Semester Three</td>
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<tr>
<td>AEC 3033C</td>
<td>Research and Business Writing in Agricultural and Life Sciences (Critical Tracking; Writing Requirement)</td>
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<tr>
<td>STA 2023</td>
<td>Introduction to Statistics 1 (Critical Tracking; Gen Ed Mathematics)</td>
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<tr>
<td>FOR 2662</td>
<td>Forests for the Future (recommended, if not already taken)</td>
<td>3</td>
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<tr>
<td>Gen Ed Composition</td>
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<tr>
<td>Elective</td>
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<tr>
<td>Semester Four</td>
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<td>14</td>
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<tr>
<td>Quest 2 (Gen Ed Physical Sciences)</td>
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<tr>
<td>Select one:</td>
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<td>3-4</td>
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</table>
AEB 2014  Economic Issues, Food and You (Critical Tracking)
ECO 2013  Principles of Macroeconomics (Critical Tracking)
ECO 2023  Principles of Microeconomics (Critical Tracking; Gen Ed Social and Behavioral Sciences)

Select one:

AEC 3030C  Effective Oral Communication (Critical Tracking)
SPC 2608  Introduction to Public Speaking (Critical Tracking)
FAS 2024  Sustainable Fisheries (recommended elective, if not already taken)

State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)

Credits 15-16

Summer After Semester Four

FOR 3200C  Foundations of Natural Resources and Conservation (Critical Tracking; Summer B only) 3
FOR 3434C  Forest Resources Information Systems (Critical Tracking; Summer B only) 3

Credits 6

Semester Five

FNR 3131C  Dendrology/Forest Plants (Critical Tracking) 3
FNR 3410C  Natural Resource Sampling (Critical Tracking) 3
FOR 3153C  Forest Ecology (Critical Tracking) 3
SWS 3022  Introduction to Soils in the Environment 3
SWS 3022L  Introduction to Soils in the Environment Laboratory (optional) 0-1

Credits 12-13

Semester Six

FOR 3162C  Silviculture (Critical Tracking) 4
FOR 3202  Society and Natural Resources (Critical Tracking) 3
GEO 3250  Climatology 3
GLY 2010C  Physical Geology 4

Credits 14

Semester Seven

FNR 3020  Professional Practice in Natural Resources 1
FNR 4461  Spatial Models and Decision Analysis 3
FNR 4660  Natural Resource Policy and Economics (Critical Tracking) 3
Management and social dimensions elective 3
Physical dimensions elective 3

Credits 13

Semester Eight

FNR 4343C  Forest Water Resources (Critical Tracking) 3
FNR 4345  Models for Water Resources 1
FNR 4623C  Integrated Natural Resource Management (Critical Tracking) 3
FOR 3214  Fire Ecology and Management (Critical Tracking) 2
FOR 3214L  Fire Ecology and Management Laboratory (optional) 0-1
Chemical and biological dimensions elective 3
Management and social dimensions elective 3

Credits 15-16

Total Credits 120

1 Can substitute ENC 2210 or ENC 3254.
2 Elective: FOR 2662 recommended, if not already taken; or FOR 3004 recommended.

Placement tests and/or prerequisites may be necessary for access to certain courses.

Course availability may necessitate departure from this course sequence. Except for certain courses where sequence is important, successful completion is more important than the sequence in which the courses are taken.

The summer term between the junior and senior year is normally reserved for professional work experience. For questions regarding opportunities, email (khaselj@ufl.edu?Subject=Forest Resources and Conservation Major) the SFRC Student Services office.

### Academic Learning Compact

The forest resources and conservation major provides a broad education in the ecological, economic and social aspects of forest and natural resources and their management. The major also provides national accreditation from the Society of American Foresters.

### 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:

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<thead>
<tr>
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<tbody>
<tr>
<td>FNR 3131C</td>
<td>Dendrology/Forest Plants</td>
<td>3</td>
</tr>
<tr>
<td>FNR 3410C</td>
<td>Natural Resource Sampling</td>
<td>3</td>
</tr>
<tr>
<td>FOR 3004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNR 4623C</td>
<td>Integrated Natural Resource Management</td>
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</tr>
<tr>
<td>FNR 4660</td>
<td>Natural Resource Policy and Economics</td>
<td>3</td>
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</tbody>
</table>

- 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 forest and related 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 forest and natural resource management.

#### Communication

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

### Curriculum Map

<table>
<thead>
<tr>
<th>Code</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
<th>SLO 4</th>
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<tbody>
<tr>
<td>FNR 3131C</td>
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<tr>
<td>FNR 3410C</td>
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</tr>
<tr>
<td>FNR 4343C</td>
<td>R</td>
<td>R</td>
<td>R</td>
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</tr>
</tbody>
</table>

I = Introduced; R = Reinforced; A = Assessed
### Assessment Types

- Final group project
- Exams
- Program exit exam