ENVIRONMENTAL MANAGEMENT IN AGRICULTURE AND NATURAL RESOURCES | INTERDISCIPLINARY STUDIES

Using an interdisciplinary approach, students in this major develop the scientific and technical foundation needed to integrate and communicate the diverse environmental issues associated with urban, agricultural, and natural ecosystems. Environmental Management students study hydrology, soil science, pest management, water resources, ecology, and natural resource policy.

About this Program

- **College:** Agricultural and Life Sciences (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL)
- **School:** Natural Resources and Environment (http://catalog.ufl.edu/UGRD/colleges-schools/UGNTR)
- **Degree:** Bachelor of Science
- **Credits for Degree:** 120
- **Additional Information**

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

This major is for students who desire education in environmental management with substantial emphasis on agriculture and natural resources.

Graduates will find employment with agricultural producers, consulting companies and government agencies that are involved in maintaining a sustainable environment.

Related Environmental Management in Agriculture and Natural Resources Programs

- Bachelor of Science in Environmental Management in Agriculture and Natural Resources, UF Online (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/IS_BS01_UFO)

Critical Tracking

Critical Tracking records each student’s progress in courses that are required for entry to 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=309999&track=01) may be used for transfer students.

Semester 1

- Complete 1 of 6 critical-tracking courses, excluding labs: AEC 3030C or SPC 2608, BSC 2005/BSC 2005L or BSC 2010/BSC 2010L, CHM 2045/CHM 2045L, CHM 2046/CHM 2046L, MAC 2233, STA 2023
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

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

Semester 3

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

Semester 4

- Complete 1 additional critical-tracking course, excluding labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs
- 2.0 GPA required for all critical-tracking courses
- 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 Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHM 2045 &amp; 2045L</td>
<td>General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking: State Core Gen Ed Biological or Physical Sciences)</td>
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<tr>
<td>State Core Gen Ed Composition (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext</a>); Writing Requirement</td>
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<td>State Core Gen Ed Humanities (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext</a>)</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/#genedcoursetext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext</a>)</td>
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<td><strong>Semester Two</strong></td>
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<td>AEB 2014</td>
<td>Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences)</td>
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</table>
Approved elective

SWS 4244

Approved elective

SWS 4245

Semester Six

Approved elective

AEB 3133
Semester Six

Approved elective

AEC 3033C

Select one:

AEC 3033C

Electives

MAC 2233

Semester Four

Elective

GLY 2030C

Select one:

Select one:

BSC 2005 & 2005L

BSC 2010 & 2010L

GLY 2030C

Select one:

Select one:

PHY 2020

PHY 2004

Elective

3

Credits
16-17

Semester Three

Select one:

AEC 3030C

SPC 2608

Select one:

BSC 2005 & 2005L

BSC 2010 & 2010L

GLY 2030C

Select one:

PHY 2020

PHY 2004

Elective

3

Credits
15

Semester Seven

AOM 4643

FNR 4660

SWS 4720C

Apprproved elective

Elective

3

Credits
15

Semester Eight

SWS 4116

SWS 4223

Approved electives

Credits
12

Total Credits
120

Approved Electives

Other electives require advisor approval

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>AEB 3114L</td>
<td>Introduction to Agricultural Computer Applications</td>
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<td>AEB 3144</td>
<td>Introduction to Agricultural Finance</td>
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<td>AEB 3300</td>
<td>Agricultural and Food Marketing</td>
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<td>AEB 3341</td>
<td>Selling Strategically</td>
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<tr>
<td>AEB 3450</td>
<td>Introduction to Natural Resource and Environmental Economics</td>
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<tr>
<td>AEB 3671</td>
<td>Comparative World Agriculture</td>
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<td>AEB 4123</td>
<td>Agricultural and Natural Resource Law</td>
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<td>ALS 4161</td>
<td>Exotic Species and Biosecurity Issues</td>
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<td>ALS 4162</td>
<td>Consequences of Biological Invasions</td>
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<td>BUL 4310</td>
<td>The Legal Environment of Business</td>
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<td>ECO 2013</td>
<td>Principles of Macroeconomics</td>
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<td>ECO 2023</td>
<td>Principles of Microeconomics</td>
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<td>ECO 2033</td>
<td>Principles of Entrepreneurship</td>
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<td>ENT 3003</td>
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<td>ENY 3007C</td>
<td>Life Science</td>
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<td>ENY 3510C</td>
<td>Turf and Ornamental Entomology</td>
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<td>ENY 4210</td>
<td>Insects and Wildlife</td>
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<td>FOR 3214</td>
<td>Fire Ecology and Management</td>
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<td>FOR 4110</td>
<td>Ecology and Restoration of Longleaf Pine Ecosystems</td>
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<td>GEB 3373</td>
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<td>HOS 3020C</td>
<td>Principles of Horticulture Crop Production</td>
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<td>MAR 3023</td>
<td>Principles of Marketing</td>
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<td>PLS 3004C</td>
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<td>SWS 2007</td>
<td>The World of Water</td>
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<td>SWS 3022L</td>
<td>Introduction to Soils in the Environment (Laboratory)</td>
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<td>SWS 4207</td>
<td>Sustainable Agricultural and Urban Land Management</td>
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<td>SWS 4231C</td>
<td>Soil, Water and Land Use</td>
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<td>Soil and Water Conservation</td>
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<td>SWS 4245</td>
<td>Water Resource Sustainability</td>
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<tr>
<td>SWS 4303C</td>
<td>Soil Microbial Ecology</td>
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Total Credits
120
SWS 4307 Ecology of Waterborne Pathogens 3
SWS 4451 Soil and Water Chemistry 3
SWS 4550 Soils, Water and Public Health 3
SWS 4602C Soil Physics 3
SWS 4715C Environmental Pedology 4
SWS 4932 Special Topics in Soil and Water Science (Hydric Soils) 2
SWS 4932 Special Topics in Soil and Water Science (Forest and Soil Ecosystem Services) 3
SWS 4932 Special Topics in Soil and Water Science (Environmental Techniques; 2 live labs at selected locations) 3
WIS 2552 Biodiversity Conservation: Global Perspectives 3
WIS 3401 Wildlife Ecology and Management 3
WIS 4427C Wildlife Habitat Management 3
WIS 4934 Topics in Wildlife Ecology and Conservation (Natural Resource Ecology) 3

### Communication
6. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

### Curriculum Map

<table>
<thead>
<tr>
<th>Courses</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
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<td>SWS 4720</td>
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### Assessment Types
- Projects
- Papers
- Presentations
- Exams

### Academic Learning Compact
The interdisciplinary major in environmental management in agriculture provides students with the scientific and technical foundation to integrate and communicate the diverse environmental issues associated with agriculture and natural resources. Students will be able to deal in an informed manner with the agricultural regulations and permitting requirements established by various agencies and jurisdictions, and students will achieve an appreciation for the complexities of agricultural practices. Students will learn to integrate, balance and communicate the mix of agricultural and environmental issues that need to be addressed in modern society.

### Before Graduating Students Must
- Complete an approved senior-year research project, SWS 4905, related to management and science skills.
- Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty committee.
- Complete requirements for the baccalaureate degree, as determined by faculty.

### Students in the Major Will Learn to

#### Student Learning Outcomes (SLOs)

##### Content
1. Appraise similarities between agronomic production and environmental protection issues.
2. Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

##### Critical Thinking
3. Cite specific examples of natural resources and environmental public policy issues and identify contending stakeholder interests with respect to each issue.
4. Develop a plan for the analysis of an environmental / agricultural study using geographic information systems software.
5. Critically evaluate natural resource policies using basic economic tools and applying ecological, social and political criteria.