ENVIRONMENTAL MANAGEMENT IN AGRICULTURE AND NATURAL RESOURCES | INTERDISCIPLINARY STUDIES

This degree program uses an interdisciplinary approach to provide the scientific and technical foundation needed to integrate and communicate the diverse environmental issues associated with urban, agricultural, and natural ecosystems. Students develop an understanding of the best use of our natural resources for their social and economic benefits while protecting associated resource values, property rights and the environment. This degree provides a solid grounding in the areas of hydrology, soil science, pest management, water resources, and agricultural ecology.

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **School:** Natural Resources and Environment
- **Credits for Degree:** 120
- **Additional Information**
- **Related Environmental Management in Agriculture and Natural Resources Programs**

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

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 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 2105/BSC 2105L, 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</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; Writing Requirement</td>
<td>3</td>
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<tr>
<td>Elective</td>
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<tr>
<td>State Core Gen Ed Humanities</td>
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<tr>
<td>State Core Gen Ed Social and Behavioral Sciences</td>
<td>3</td>
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<tr>
<td><strong>Semester Two Credits</strong></td>
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<tr>
<td>Select one:</td>
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<tr>
<td>AEB 2014</td>
<td>Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences)</td>
<td>3-4</td>
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<tr>
<td>ECO 2023</td>
<td>Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>CHM 2046</td>
<td>General Chemistry 2</td>
<td>4</td>
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<tr>
<td>&amp; 2046L</td>
<td>and General Chemistry 2 Laboratory (Critical Tracking; Gen Ed Physical Sciences)</td>
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<tr>
<td>IUF 1000</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
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<tr>
<td>STA 2023</td>
<td>Introduction to Statistics 1 (Critical Tracking; Gen Ed Mathematics)</td>
<td>3</td>
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**Semester Three**

- **Credits**: 16-17
- Select one:
  - AEC 3030C Effective Oral Communication (Critical Tracking) | 3
  - SPC 2608 Introduction to Public Speaking (Critical Tracking) | 3

- Select one:
  - BSC 2005 Biological Sciences and Laboratory in Biological Sciences (Critical Tracking; Gen Ed Biological Sciences) | 4
  - GLY 2030C Environmental and Engineering Geology (Gen Ed Physical Sciences) | 3

- Select one:
  - PHY 2020 Introduction to Principles of Physics (Gen Ed Physical Sciences) | 3
  - PHY 2004 Applied Physics 1 (Gen Ed Physical Sciences) | 3

- Elective | 3

**Semester Four**

- ALS 3133 Agricultural and Environmental Quality (Gen Ed Physical Sciences) | 3
- MAC 2233 Survey of Calculus 1 (Critical Tracking; State Core Gen Ed Mathematics) | 3

- Electives | 4
- Select one:
  - Gen Ed Humanities | 3
  - Gen Ed Social and Behavioral Sciences | 3

- Credits | 13

**Semester Five**

- AEC 3033C Research and Business Writing in Agricultural and Life Sciences (Writing Requirement) | 3
- ALS 3153 Agricultural Ecology | 3
- SWS 3022 Introduction to Soils in the Environment (Gen Ed Physical Sciences) | 3

- Approved elective | 3

- Credits | 12

**Semester Six**

- AEB 3133 Principles of Agribusiness Management or Principles of Management (3-4) | 3
- Select one:
  - ENY 3005 Principles of Entomology and Principles of Entomology Laboratory | 3
  - IPM 3022 Fundamentals of Pest Management | 3
  - SWS 4244 Wetlands | 3

- Approved elective | 3
- Elective | 3

- Credits | 15-16

**Summer After Semester Six**

- SWS 4905 or SWS 4941 Individual Work or Full-time Practical Work Experience in Soil and Water Science | 3

- Approved elective | 3

**Semester Seven**

- AOM 4643 Environmental Hydrology: Principles and Issues | 3
- FNR 4660 Natural Resource Policy and Economics | 3
- SWS 4720C GIS in Soil and Water Science | 3

- Elective | 3

- Credits | 15

**Semester Eight**

- SWS 4116 Environmental Nutrient Management | 3
- SWS 4223 Environmental Biogeochemistry | 3

- Approved electives | 6

- Credits | 12
- Total Credits | 120

**Approved Electives**

- Other electives require advisor approval

**Code** | **Title** | **Credits**
---|---|---
AEB 3114L | Introduction to Agricultural Computer Applications | 1
AEB 3143 | Introduction to Agricultural Finance | 3
AEB 3300 | Agricultural and Food Marketing | 3
AEB 3341 | Selling Strategically | 3
AEB 3450 | Introduction to Natural Resource and Environmental Economics | 3
AEB 3671 | Comparative World Agriculture | 3
AEB 4123 | Agricultural and Natural Resource Law | 3
ALS 4161 | Exotic Species and Biosecurity Issues | 3
ALS 4162 | Consequences of Biological Invasions | 3
BUL 4310 | The Legal Environment of Business | 4
ECO 2013 | Principles of Macroeconomics | 4
ECO 2023 | Principles of Microeconomics | 4
ENT 3003 | Principles of Entrepreneurship | 4
ENY 3007C | Life Science | 3
ENY 3510C | Turf and Ornamental Entomology | 3
ENY 4210 | Insects and Wildlife | 3
FOR 3214 | Fire Ecology and Management | 2
FOR 3855 | Agroforestry in the Southeast United States | 3
FOR 4110 | Ecology and Restoration of Longleaf Pine Ecosystems | 3
GEB 3373 | International Business | 4
HOS 3020 | Principles of Horticulture Crop Production | 3
MAR 3023 | Principles of Marketing | 4
PLS 3004C | Principles of Plant Science | 3
SWS 2007 | The World of Water | 3
SWS 3022L | Introduction to Soils in the Environment Laboratory | 1
SWS 4207 | Sustainable Agricultural and Urban Land Management | 3
SWS 4231C | Soil, Water and Land Use | 3
SWS 4233 | Soil and Water Conservation | 3
SWS 4245 | Water Resource Sustainability | 3
SWS 4303C | Soil Microbial Ecology | 3
SWS 4307 | Ecology of Waterborne Pathogens | 3
SWS 4451 | Soil and Water Chemistry | 3
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.

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