

# 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 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.*

Course	Title	Credits
<b>Semester One</b>		
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory ( <b>Critical Tracking</b> ; State Core Gen Ed Biological or Physical Sciences)	4
	State Core Gen Ed Composition; Writing Requirement	3
	Elective	2
	State Core Gen Ed Humanities	3
	State Core Gen Ed Social and Behavioral Sciences	3
	<b>Credits</b>	<b>15</b>
<b>Semester Two</b>		
Select one:		3-4
AEB 2014	Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences)	
ECO 2013	Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences)	
ECO 2023	Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)	

CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	4
IUF 1000	What is the Good Life (Gen Ed Humanities)	3
STA 2023	Introduction to Statistics 1 ( <b>Critical Tracking</b> ; Gen Ed Mathematics)	3
Gen Ed Composition; Writing Requirement		3
Credits		16-17
<b>Semester Three</b>		
Select one:		3
AEC 3030C	Effective Oral Communication ( <b>Critical Tracking</b> )	
SPC 2608	Introduction to Public Speaking ( <b>Critical Tracking</b> )	
Select one:		4
BSC 2005 & 2005L	Biological Sciences and Laboratory in Biological Sciences ( <b>Critical Tracking</b> ; Gen Ed Biological Sciences)	
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 ( <b>Critical Tracking</b> ; Gen Ed Biological Sciences)	
GLY 2030C	Environmental and Engineering Geology (Gen Ed Physical Sciences)	3
Select one:		3
PHY 2020	Introduction to Principles of Physics (Gen Ed Physical Sciences)	
PHY 2004	Applied Physics 1 (Gen Ed Physical Sciences)	
Elective		3
Credits		16
<b>Semester Four</b>		
ALS 3133	Agricultural and Environmental Quality (Gen Ed Physical Sciences)	3
MAC 2233	Survey of Calculus 1 ( <b>Critical Tracking</b> ; State Core Gen Ed Mathematics)	3
Electives		4
Select one:		3
Gen Ed Humanities		
Gen Ed Social and Behavioral Sciences		
Credits		13
<b>Semester Five</b>		
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
<b>Semester Six</b>		
AEB 3133 or MAN 3025	Principles of Agribusiness Management or Principles of Management	3-4
Select one:		3
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	
IPM 3022	Fundamentals of Pest Management	
SWS 4244	Wetlands	3
Approved elective		3
Elective		3
Credits		15-16

<b>Summer After Semester Six</b>		
SWS 4905 or SWS 4941	Individual Work or Full-time Practical Work Experience in Soil and Water Science	3
Approved elective		3
Credits		6
<b>Semester Seven</b>		
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
Approved elective		3
Elective		3
Credits		15
<b>Semester Eight</b>		
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 3144	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		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

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

## Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6
AEB 3133					I	
AEC 3030C						I, R, A
AEC 3033C						I, R, A
ALS 3133	I, A	I	I			
AOM 4643R		R		I		
FNR 4660			R, A		R, A	R
SWS 3022	I					
SWS 4116R						R
SWS 4223R		R, A				R
SWS 4720				R, A		R

## 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.

## Assessment Types

- Projects
- Papers
- Presentations
- Exams