

Cover Sheet: Request 11406

Plant Science

Info

Process	Major Curriculum Modify Ugrad/Pro
Status	Pending
Submitter	Alexander, Amy M amyalex@ufl.edu
Created	1/12/2017 4:13:49 PM
Updated	1/24/2017 11:45:09 AM
Description of request	Reconstruction/renaming of specializations, deletions and additions of others.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Environmental Horticulture 514918000	Guy, Charles L	I have reviewed all of the documents submitted, and I support the adoption of this revised and expanded academic curriculum for the Plant Science Major.	1/12/2017
Added Cover Letter Plant Science Major 2017.pdf					1/12/2017
Added 2016 Plant Sciences consult from Horticultural Science.doc					1/12/2017
Added Response to letter from Horticultural Science 1-09.pdf					1/12/2017
Added Consult for Plant Science revision.pdf					1/12/2017
Added Letter from DPM Program 2017.pdf					1/12/2017
College	Approved	CALS - College of Agricultural and Life Sciences	Brendemuhl, Joel H	Approved by CALS CC.	1/24/2017
Replaced Plant Science curriculum document track changes.docx					1/23/2017
Added Plant Science curriculum document track changes 2.docx					1/23/2017
Added Land Arch External Consult.pdf					1/23/2017
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			1/24/2017
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
Academic Assessment Committee Notified					
No document changes					
College Notified					

Step	Status	Group	User	Comment	Updated
No document changes					

Major|Modify_Curriculum for request 11406

Info

Request: Plant Science

Description of request: Reconstruction/renaming of specializations, deletions and additions of others.

Submitter: Alexander, Amy M amyalex@ufl.edu

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Form version: 1

Responses

Major NamePlant Science

Major CodePLS

Degree Program Name Plant Science

Effective Term Earliest Available

Effective Year 2017

Proposed Changes See attached "Cover Letter Plant Science Major 2017."

Pedagogical Rationale/JustificationSee attached "Cover Letter Plant Science Major 2017."

Impact on Enrollment, Retention, GraduationCurrent students will be given the option to change to the new curriculum if they are still at a point in their current degree program to accommodate it, however it will not be necessary.

Assessment Data ReviewSee "Cover Letter Plant Science Major 2017."

Academic Learning Compact and Academic Assessment PlanSee "Cover Letter Plant Science Major 2017."

Plant Science

Plant science is a diverse major offered collaboratively by the departments of Agronomy, [Entomology and Nematology](#), Environmental Horticulture, ~~and~~ [Plant Pathology and Soil and Water Sciences](#). Students may earn a [B.S.](#) or ~~B.A.~~ degrees depending on their specialization. ~~S.B.S.~~ specializations include [Native Plant Conservation](#), [General Plant Science](#), [Greenhouse and Landscape Industries](#), [Plant Breeding and Genetics](#), [Plant Health and Protection](#), [Soil Management and Plant Productivity](#), [Sustainable Crop Production and Turfgrass Science](#), ~~Crop Ecology~~, [Landscape and Nursery Horticulture](#), ~~Plant Genetics~~, [Plant Health](#), ~~Restoration Horticulture and Sustainable Food Production~~. ~~B.A.~~ specializations include [Community Food Systems and Garden Design and Management](#).

About this Major

- **College:** [Agricultural and Life Sciences](#)
- **Degrees:** Bachelor of Science; ~~Bachelor of Arts~~
- **Credits for Degree:** 120
- **Specializations:**
 - ~~B.S.~~ [Native Plant Conservation](#), [General Plant Science](#), [Greenhouse and Landscape Industries](#), [Plant Breeding and Genetics](#), [Plant Health and Protection](#), [Soil Management and Plant Productivity](#), [Sustainable Crop Production and Turfgrass Science](#); ~~Crop Ecology~~; [Landscape and Nursery Horticulture](#); ~~Plant Genetics~~; [Plant Health](#); ~~Restoration Horticulture~~; [Sustainable Food Production](#)
 - ~~B.A.~~ [Community Food Systems](#); [Garden Design and Management](#)
- [Academic Learning Compact](#)
- [Additional Information](#)

- [Related Plant Science Programs](#)

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

The plant science degree offers diverse specializations that provide a range of opportunities in the food and agricultural sector. The specializations are designed to provide students with an interdisciplinary perspective of these areas.

The degree prepares graduates for careers in production agriculture, turf and ornamentals production, agribusiness sales and marketing, design and management of gardens, private consulting in plant production and protection, restoration of land and aquatic spaces, public policy and regulation related to agriculture, community garden management, international agriculture and field or laboratory technical support. Plant science can also be used as preparation for studies in graduate and professional school.

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Course Requirements ~~for Both Degrees~~

The B.S. ~~and B.A.~~ degrees ~~is~~are designed for students with different professional objectives. All students, regardless of degree or specialization, are required to take an introductory plant science course, [an introductory statistics course](#), [an economics course](#), [a technical writing course](#), [a speech course](#), [a soil science course](#), [a plant physiology course](#), [a plant pathology course](#), [a professional development course](#), and a capstone experience course and all must complete an internship related to their area of interest.

Each specialization has a specific set of required core courses and a number of upper-division electives to choose from that represent important interdisciplinary topic areas. Core courses provide students with the knowledge and fundamental concepts essential to the specialization. Upper-division electives are designed to build knowledge, competency and skills applicable to professional development.

Students should meet with an advisor as early as possible in their academic careers to choose their specialization and to plan their course of study.

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Bachelor of Science: Restoration Horticulture Native Plant Conservation

Critical Tracking Model Semester Plan

[This specialization prepares students to apply concepts of plant conservation and ecology to control invasive plants and establish, manage, and protect native plant communities, primarily in natural areas. Students also develop skills necessary for native plant propagation for ecological restoration and sustainable landscapes.](#)

~~This specialization prepares students to apply horticultural based knowledge to the establishment, management and protection of plant communities. This background will develop proficiency in many areas of applied plant science, including native/rare plant propagation, ex situ plant conservation, weed control, nursery production of native plants, and planting design and specification.~~

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.

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Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- Complete 2 of 6 critical-tracking courses, excluding labs: ~~AEB 2014 or ECO 2013 or ECO 2023~~; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; CHM 2046/2046L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

<u>Semester 1</u>	<u>Credits</u>
<u>BOT 2010C Introductory Botany; or</u> <u>BSC 2010C Integrated Principles of Biology 1, 3 credits; and</u> <u>BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit</u> <i>State core; GE-B/P</i>	<u>3-4</u>
<u>MAC 1147 Precalculus: Algebra and Trigonometry</u> <i>State Core GE-M</i>	<u>4</u>
<u>ENC 1101 Expository and Argumentative Writing</u> <u>Composition</u> <i>State Core GE-C: WR6</i>	<u>3</u>
<u>MUL 2010 Experiencing Music</u> <u>Humanities</u> <i>State Core GE-H: N</i>	<u>3</u>

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Total 13-14

<u>Semester 2</u>	<u>Credits</u>
<u>BOT 2011C Plant Diversity; or</u> <u>BSC 2011 Integrated Principles of Biology 2, 3 credits; and</u> <u>BSC2011L Integrated Principles of Biology Laboratory 2, 1 credit</u> <i>GE-B/P</i>	<u>4</u>
<u>IUF 1000 What is the Good Life</u> <i>GE-H</i>	<u>3</u>
<u>STA 2023 Introduction to Statistics 1</u> <u>MAC 2233 Survey of Calculus 1</u> <i>GE-M</i>	<u>3</u>
<u>Elective with international or diversity focus</u>	<u>3</u>
<u>Social and Behavioral Sciences</u> <u>ENC 2210 Technical Writing</u> <i>State Core GE-CS; WR6</i>	<u>3</u>

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Total 13-6

<u>Semester 3</u>	<u>Credits</u>
<u>AEB 2014 Economic Issues, Food and You, 3 credits, or</u> <u>ECO 2013 Principles of Macroeconomics, 4 credits, or</u> <u>ECO 2023 Principles of Microeconomics, 4 credits</u> <i>State Core GE-S</i>	<u>3-4</u>
<u>AEC 3033C Research and Business Writing in Agricultural and Life Sciences</u> <i>WR</i>	<u>3</u>
<u>AEC 3030C Effective Oral Communication or</u> <u>SPC 2608 Public Speaking</u>	<u>3</u>
<u>CHM 2045 General Chemistry 1, 3 credits, and</u> <u>CHM 2045L General Chemistry Laboratory 1, 1 credit</u> <i>State Core GE-B/P</i>	<u>4</u>
<u>Elective with international or diversity focus</u>	<u>3</u>

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Humanities (GE-H) or

AMH 2020 United States since 1877

3

GE-S; D

Social and Behavioral Sciences (GE-S)

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Total 146-17

Semester 4

Credits

AEC 3030C Effective Oral Communication or

SPC 2608 Public Speaking

3

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CHM 2046 General Chemistry 2, 3 credits, and

CHM 2046L General Chemistry 2 Laboratory, 1 credit

GE-B/P

4

ENY 3005 Principles of Entomology, 2 credits, and

ENY 3005 Principles of Entomology Laboratory, 1 credit

GE-B/P

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SWS 3022 Introduction to Soils in the Environment,
3 credits, and

34

SWS 3022 Introduction to Soils in the Environment

Laboratory, 1 credit GE-B/P

4

WIS 3401 Wildlife Ecology and Management

3

PHY 2004 Applied Physics 1 or

PHY 2020 Introduction to Principles of Physics

GE-B/P

3

STA 2023 Introduction to Statistics 1

GE-M

3

Composition

GE-C; WR

3

Total 146

Summer

BOT 3151C Local Flora of North Florida ----- 3

Gordon Rule 6000 word course ----- 3

Total 6

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Credits

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Semester 5

BCH3023 Elementary Organic and Biological Chemistry ----- 3

3

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[AEB4126 Agriculture and Natural Resource Ethics, WR6 Ecology elective](#) [33](#)
[Ecology and the Environment Tools and Applications elective](#) [23](#)
[Total](#) [122](#)

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[Approved Electives: Minimum 544 credits](#)

[Choose a courses from each focus area; minimum credits for each area listed below. Electives must be advisor approved. Consult an advisor for other options, which may include study abroad courses.](#)

[Natural Resource Management: Minimum 3 credits](#)

- [FOR 3214 Fire in Natural Resource Management \(2\)](#)
- [FOR 4110 Ecology and Restoration of Longleaf Pine Ecosystem \(3\)](#)
- [WIS 3401 Wildlife Ecology and Management \(3\)](#)

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[Ecology and the Environment: Minimum one course 5 credits](#)

<u>ALS 4154 Global Agroecosystems (3)</u>
<u>ALS 3133 Agricultural and Environmental Quality (3)</u>
<u>ALS 3153 Agricultural Ecology (3)</u>
<u>EES 4103 Applied Ecology (3)</u>
<u>EVS 3000 Environmental Science (3)</u>
<u>FOR 3153C Forest Ecology (3)</u>
<u>FOR 4090C Urban Forestry (3)</u>
<u>ORH 3815C Florida Native Landscaping (3)</u>
<u>SWS 4244 Wetlands (3)</u>
<u>WIS 3402 Wildlife of Florida (3)</u>
<u>WIS 4203C Introduction to Landscape Ecology (3)</u>
<u>WIS 4427 Habitat Management (3)</u>
<u>WIS 4934 Wetland Management and Research Techniques (3)</u>
<u>FOR 3214 Fire in Natural Areas Management (3)</u>
<u>FOR 4110 Ecol. & Restoration Longleaf Pine Ecosys. (3)</u>
<u>BOT 3503 Physiology & Molecular Biology of Plants (3)</u>
<u>BOT4935/BOT 5225C Plant Anatomy (3)</u>
<u>BOT 2710 Practical Plant Taxonomy (4)</u>
<u>BOT 4650 Plant Symbiosis (3)</u>
<u>BSC 2862 Global Change Ecology and Sustainability (3)</u>

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Critical Tracking

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Bachelor of Science: General Plant Science

Critical Tracking-Model Semester Plan

This specialization focuses on the biology and science of growing plants. It combines courses in propagation, plant identification and use, soils and plant nutrition, plant diseases, weed identification, and insects to give students a well-rounded background on plant management. This specialization develops skills that allow students to increase plant productivity and improve plant quality with less labor while controlling pests and weeds safely and effectively. Career opportunities include research and development, plant management, plant production, and preparation for graduate school. Employment opportunities exist in laboratories, government agencies, and commercial operations.

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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 2 of 6 critical-tracking courses, excluding labs: ECO 2013; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1	Credits	Formatted Table
BOT 2010C Introductory Botany; or		Formatted: Font: (Default) Times New Roman, 12 pt
BSC 2010 Integrated Principles of Biology 1, 3 credits; and		Formatted: Font: (Default) Times New Roman, 12 pt
BSC 2010L Integrated Principles of Biology Laboratory, 1 credit	3-4	Formatted: Font: (Default) Times New Roman, 12 pt, Bold
State core: GE-B/P		Formatted: Font: (Default) Times New Roman, 12 pt
MAC 1147 Precalculus: Algebra and Trigonometry	4	Formatted: Font: Not Bold
State core GE-M		Formatted: Font: (Default) Times New Roman, 12 pt, Bold
ENC 1101 Expository and Argumentative Writing	3	Formatted: Font: (Default) Times New Roman, 12 pt
State core: GE-C: WR6		Formatted: Font: Not Bold
MUL 2010 Experiencing Music	3	Formatted: Font: (Default) Times New Roman, 12 pt, Bold
State core: GE-H; N		Formatted: Font: (Default) Times New Roman, 12 pt
	Total 13-14	Formatted: Font: (Default) Times New Roman, 12 pt, Bold
Semester 2	Credits	Formatted: Font: (Default) Times New Roman, 12 pt
BOT 2011C Plant Diversity; or		Formatted: Font: (Default) Times New Roman, 12 pt, Bold
BSC 2011 Integrated Principles of Biology 2, 3 credits; and		Formatted: Font: (Default) Times New Roman, 12 pt
BSC 2011L Integrated Principles of Biology 2, 1 credit	4	Formatted: Font: (Default) Times New Roman, 12 pt
GE-B/P		Formatted: Font: (Default) Times New Roman, 12 pt
IUF 1000 What is the Good Life?	3	Formatted: Font: (Default) Times New Roman, 12 pt
GE-H		Formatted: Font: (Default) Times New Roman, 12 pt
STA 2023 Introduction to Statistics 1	3	Formatted: Font: Bold
GE-M		Formatted: Font: Not Bold
ENC 2210 Technical Writing	3	Formatted: Font: Not Bold
GE-C: WR6	Total 13	

<u>Semester 3</u>	<u>Credits</u>
<u>ECO 2013 Principles of Macroeconomics</u>	<u>4</u>
<u>State core GE-S</u>	
<u>AEC 3030C Effective Oral Communication or</u> <u>SPC 2608 Public Speaking</u>	<u>3</u>
<u>CHM 2045 General Chemistry 1, 3 credits, and</u> <u>CHM 2045 General Chemistry Laboratory 1, 1 credit</u>	<u>4</u>
<u>AMH 2020 United States Since 1877</u>	<u>3</u>
<u>GE-S; D</u>	<u>Total 14</u>

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<u>Semester 4</u>	<u>Credits</u>
<u>PHY 2004 Applied Physics 1, 3 credits, and</u> <u>PHY 2004L Applied Physics Laboratory, 1 credit</u>	<u>4</u>
<u>GE-B/P</u>	
<u>PLS 3004C Principles of Plant Science</u>	<u>3</u>
<u>GE-B/P</u>	
<u>SWS 3022 Introduction to Soils in the Environment, 3 credits, and</u> <u>SWS 3022L Introduction to Soils in the Environment, 1 credit</u>	<u>4</u>
<u>GE-B/P</u>	
<u>ENY 3005 Principles of Entomology, 2 credits, and</u> <u>ENY 3005 Principles of Entomology, 1 credit</u>	<u>3</u>
	<u>Total 14</u>

<u>Summer</u>	<u>Credits</u>
<u>ORH 3513 Environmental Plant Identification and Use, 2 credits, and</u> <u>ORH 3513L Environmental Plant Identification and Use Laboratory,</u> <u>1 credit</u>	<u>3</u>
<u>Gordon Rule 6000-word course</u>	<u>3</u>
	<u>Total 6</u>

<u>Semester 5</u>	<u>Credits</u>
<u>BCH 3023 Elementary Organic and Biological Chemistry</u>	<u>3</u>
<u>PLP 3002 Fundamentals of Plant Pathology</u>	<u>4</u>
<u>PLS 4601C Principles of Weed Science</u>	<u>3</u>
<u>AEB 4126 Agricultural and Natural Resource Ethics</u>	<u>3</u>
<u>WR6</u>	
<u>Approved elective</u>	<u>3</u>
	<u>Total 16</u>

<u>Semester 6</u>	<u>Credits</u>
<u>AGR 4512 Physiology and Ecology of Crops, or</u> <u>HOS 4304 Horticultural Physiology</u>	<u>3</u>
<u>Approved elective</u>	<u>3</u>
<u>Approved elective</u>	<u>3</u>
<u>Approved elective</u>	<u>3</u>
	<u>Total 12</u>

<u>Summer</u>	<u>Credits</u>
<u>PLS 4941 Practical Work Experience</u>	<u>3</u>
	<u>Total 3</u>
<u>Semester 7</u>	<u>Credits</u>
<u>PLS 3223 Plant Propagation, 2 credits, and</u>	<u>3</u>
<u>PLS 3223L Plant Propagation Laboratory, 1 credit</u>	<u>3</u>
<u>Approved elective</u>	<u>2</u>
	<u>Total 14</u>
<u>Semester 8</u>	<u>Credits</u>
<u>ORH 4933 Professional Seminar</u>	<u>1</u>
<u>PLS 4950 Plant Science Capstone</u>	<u>3</u>
<u>Approved elective</u>	<u>2</u>
	<u>Total 15</u>

Approved Electives: Minimum 33 credits

Choose courses from the focus areas below. Electives must be advisor approved. Consult an advisor for other options, which may include study abroad courses.

Entomology and Pest Management

NEM 3002 Principles of Nematology (3)

ENY 3510C Turf and Ornamental Entomology (3)

ENY 4161 Insect Classification (3)

ENY 4573 Beekeeping (3)

AOM333 Pesticide Application Techniques (3)

IPM 4254 Landscape IPM: Ornamentals and Turf (3)

IPM 3022 Fundamentals of Pest Management (3)

Plants and Soils

ORH 3222C Turfgrass Culture (3)

ORH 4236C Ornamental Landscape Management (3)

ORH 3253C Introductory Nursery Management (4)

ORH4804 & 4804L Annual and Perennial Gardening (3)

ORH 4848 Landscape Plant Establishment (2)

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[ORH4256 Nutritional Management of Nursery Crops \(3\)](#)
[ORH4242 Aboriculture \(4\)](#)
[ORH4280 Orchidology \(3\)](#)
[ORH4264 Greenhouse and Nursery Crop Culture \(4\)](#)
[SWS 4116 Environmental Nutrient Management \(3\)](#)
[BOT 3503 Physiology & Molecular Biology of Plants \(3\)](#)
[BOT4935/BOT 5225C Plant Anatomy \(3\)](#)
[BOT 2710 Practical Plant Taxonomy \(4\)](#)
[BOT 4650 Plant Symbiosis \(3\)](#)
[BSC 2862 Global Change Ecology and Sustainability \(3\)](#)
[PLS 4242C Micropropagation of Horticultural Crops \(4\)](#)

Agribusiness

[AEB 3133 Principles of Agribusiness Management \(3\)](#)
[AEB 4424 Human Resource Management \(3\)](#)
[AEB3341 Selling Strategically \(3\)](#)

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Bachelor of Science: Greenhouse and Landscape Industries~~Landscape and Nursery Horticulture~~

Critical Tracking-Model Semester Plan

GREENHOUSE AND LANDSCAPE INDUSTRIES

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[This specialization provides skills and training for employment in the diverse ornamental horticulture industry, including theme parks, plant production facilities, and landscape management and landscape design firms. This specialization studies the improvement of the human environment through proper selection, propagation, production, and placement of plants in the exterior and interior landscapes. It combines business and plant production courses to provide the skills needed to manage a plant production facility or landscape firm.](#)

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[This specialization is for students who want to understand the scientific principles of turf and ornamental plant production and use and who desire business knowledge and management skills. The specialization is offered through the statewide program and is also available at the Fort Lauderdale Research and Education Center in Ft. Lauderdale, Fla., Gulf Coast Research and Education Center in Plant City, Fla., Mid Florida Research and Education Center in Apopka, Fla., and West Florida Research and Education Center in Milton, Fla.](#)

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 5 critical-tracking courses, excluding labs: ~~AEB 2014~~ or ECO 2013 or ~~ECO 2023~~; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; MAC 1147
- 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 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1	Credits
BOT 2010C Introductory Botany, 3 credits <i>OR</i> BSC 2010 Integrated Principles of Biology 1, 3 credits, and BSC 2010L Integrated Principles of Biology Laboratory, 1 credit, (GE-B)	3-4
<u>Composition</u> ENC 1101 Expository and Argumentative Writing <i>State Core GE-C; WR6</i>	3
<u>Elective with international or diversity focus</u>	3
MUL 2010 Experiencing Music <i>State Core GE-H; N</i>	3
MAC 1147 Precalculus: Algebra and Trigonometry <i>State Core GE-M-S</i>	4
Total	13-16
Semester 2	Credits
BOT 2011C Plant Diversity <i>OR</i> BSC 2011 Integrated Principles of Biology 2, 3 credits, and BSC 2011L Integrated Principles of Biology 2 Laboratory, 1 credit <i>GE-B</i>	4
IUF 1000 What is the Good Life <i>GE-H</i>	3
<u>STA 2023 Introduction to Statistics</u> MAC 1147 Precalculus: Algebra and Trigonometry <i>State Core GE-M</i>	4
ENC 2210 Technical Writing <i>GE-C; WR6</i>	3
<u>Elective with international or diversity focus</u>	3
Total	13-7
Semester 3	Credits
ECO 2013 Principles of Macroeconomics <i>State core; GE-SAEC 3033C Research and Business Writing in Agricultural and Life Sciences</i> <i>WR</i>	4
CHM 2045 General Chemistry 1, 3 credits, and CHM 2045L General Chemistry 1 Laboratory, 1 credit <i>State Core GE-B/P</i>	4
AEC 3030C Effective Oral Communication <i>or</i> SPC 2608 Public Speaking <i>Elective</i>	3
AMH 2020 United States Since 1877 <i>GE-S; D</i> <i>Humanities (GE-H) or</i>	3

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Social and Behavioral Sciences (GE-S)	
	Total 143
Semester 4	Credits
PHY 2004 Applied Physics 1, 3 credits, and PHY 2004L Applied Physics Laboratory 1, 1 credit GE-B/PAEB 2014 Economic Issues, Food and You, 3 credits, or ECO 2013 Principles of Macroeconomics, 4 credits, or ECO 2023 Principles of Microeconomics, 4 credits GE-S	3-4
PLS 3004C Principles of Plant Science AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking	3
SWS 3022 Introduction to Soils in the Environment, 3 credits, and SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit PHY 2004 Applied Physics 1 or PHY 2020 Introduction to Principles of Physics GE-B/P	4-3
STA 2023 Introduction to Statistics I GE-M	3
Agribusiness eElective	3
	Total 145-16
Semester 5/Summer	Credits
ENY 3005 Principles of Entomology, 2 credits, and ENY 3005L Principles of Entomology, 1 credit ORH 3222C Turfgrass Culture	3-4
Gordon Rule 6000-word course ORH 3513C Environmental Plant Identification and Use	3-3
PLS 3004C Principles of Plant Science	3
Approved electives	4
	Total 146
Semester 5	Credits
BCH 3023 Elementary Organic and Biological Chemistry	3
ORH 3513C Environmental Plant Identification and Use	3
PLP 3002C Fundamentals of Plant Pathology	4
ORH 3253C Introduction to Nursery Management or ORH 4236C Ornamental Landscape Management	3-4
	Total 13-14
Semester 6	Credits
HOS 4304 Horticultural Physiology, or AGR 4512 Crop Ecology and Physiology ORH 4236C Ornamental Landscape Management	3
AEB 4126 Agricultural and Natural Resource Ethics	3-4

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[ORH 4236C Ornamental Landscape Management \(3\)](#)

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[ORH 3253C Introductory Nursery Management \(4\)](#)

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[ORH4804 & 4804L Annual and Perennial Gardening \(3\)](#)

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[ORH 4848 Landscape Plant Establishment \(2\)](#)

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[ORH4256 Nutritional Management of Nursery Crops \(3\)](#)

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[ORH4242 Arboriculture \(4\)](#)

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[ORH4280 Orchidology \(3\)](#)

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[ORH4264 Greenhouse and Nursery Crop Culture \(4\)](#)

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[WIS 4443 Wetland Wildlife Resources \(3\)](#)

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[AOM 3734 Irrigation Principles and Practices for Florida \(3\)](#)

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[SWS 4116 Environmental Nutrient Management \(3\)](#)

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[PLS4242 Micropropagation \(3\)](#)

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[ORH3773 and 3773L Public Gardens \(3\)](#)

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[LDE3401C Residential Landscape Design \(3\)](#)

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[LDE4404C Advanced Residential Landscape Design \(3\)](#)

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[ORH2752 Sensory Gardens \(3\)](#)

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[ORH3815 Florida Native Landscaping \(3\)](#)

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[PLS4601 Weed Science \(3\)](#)

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[EVR3323 Introduction to Ecosystem Restoration \(4\)](#)

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Agribusiness

[AEB 3133 Principles of Agribusiness Management \(3\)](#)

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[AEB 4424 Human Resource Management \(3\)](#)

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[AEB3341 Selling Strategically \(3\)](#)

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[AEB 3300 Agricultural and Food Marketing \(3\)](#)

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[AEB3144 Introduction to Agricultural Finance \(3\)](#)

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Environment and Natural Resources

[EVR 3323 Introduction to Ecosystem Restoration \(4\)](#)

[EVS 3000 Environmental Science \(3\)](#)

[ORH 3815C Florida Native Landscaping \(3\)](#)

[SWS 4244 Wetlands \(3\)](#)

[WIS 3401 Wildlife Ecology and Management \(3\)](#)

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Landscape and Design Development

[LDE 3410C Residential Landscape Design \(3\)](#)

[LDE 4404C Advanced Residential Landscape Design \(3\)](#)

[ORH 4223 Golf and Sports Turf Management \(2\)](#)

[ORH 4804 and 4804L Annual Perennial Gardening \(2\) and Laboratory \(1\)](#)

Bachelor of Science: Plant Breeding and Genetics

Critical Tracking Model Semester Plan

Plant breeding and genetics play a critical role in enhancing the world's future food, fiber, and fuel supplies in response to challenges like climate change and population growth. Students will obtain a solid grounding in genetics and molecular genetics, plant processes and function, types and causes of plant stress and learn how this is applied for crop improvement and conservation of genetic resources. Modern plant breeding is an increasingly sophisticated, high-investment business. The majority of commercial plant breeding takes place within the private sector. Plant breeders are employed in plant breeding or agricultural biotechnology companies or academic institutions with the main goal to develop improved varieties and/or educate the general population about genetic techniques for plant improvement. This specialization is designed for students who want to learn how to use genetic tools to create plants with characteristics beneficial to the environment and society. Students will explore plant processes and function, types and causes of plant stress, and the practice of plant improvement using genetic tools. Students will prepare for careers developing improved plants and/or educating others about genetic techniques for plant improvement.

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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 2 of 6 critical-tracking courses, excluding labs: ~~AEB 2014 or ECO 2013 or ECO 2023~~; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; CHM2046/2046L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1		Credits
BOT 2010C Introductory Botany, 3 credits		
<i>OR</i>		
BSC 2010 Integrated Principles of Biology 1, 3 credits, and		3-4
BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit,		
<i>(State core: GE-B/P)</i>		
MAC 1147 Precalculus: Algebra and Trigonometry		4
<i>State Core GE-M</i>		
ENC1101 Expository and Argumentative Writing		3
<i>State Core GE-C; WR6</i>		
Elective		3
MUL 2010 Experiencing Music		3
<i>State Core GE-H; N</i>		
	Total	13 17
Semester 2		Credits
BOT 2011C Plant Diversity		4

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<i>OR</i> BSC 2011 Integrated Principles of Biology 2, 3 credits, and BSC 2011L Integrated Principles of Biology 2 Laboratory, 1 credit <i>GE-B/P</i>	
IUF 1000 What is the Good Life <i>GE-H</i>	3
STA 2023 Introduction to Statistics MAC 2233 Survey of Calculus I <i>GE-M</i>	3
<i>Elective</i>	1
ENC 2210 Technical Writing Social and Behavioral Sciences <i>GE-C; WR6 State Core GE-S</i>	3
Total	134

Semester 3	Credits
AEB 2014 Economic Issues, Food and You (3) or ECO 2013 Principles of Macroeconomics (4) or ECO 2023 Principles of Microeconomics (4) <i>State core; GE-S</i>	3-4
AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking AEC 3033C Research and Business Writing in Agricultural and Life Sciences <i>WR</i>	3
CHM 2045 General Chemistry 1, 3 credits, and CHM 2045L General Chemistry 1 Laboratory, 1 credit <i>State Core GE-B/P</i>	4
AMH 202 United States Since 1877 Composition <i>GE-SC; DWR</i>	3
<i>Elective</i>	3
Total	146-17

Semester 4	Credits
AGR 3303 Genetics AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking	3
CHM 2046 General Chemistry 2, 3 credits, and CHM 2046L General Chemistry 2 Laboratory, 1 credit <i>GE-B/P</i>	4
SWS 3022 Introduction to Soils in the Environment, 3 credits, and SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit PHY 2004 Applied Physics 1, 3 credits, and PHY 2004L Laboratory for Applied Physics 1, 1 credit <i>GE-B/P</i>	4
Other Approved e Elective <i>GE-H or GE-S; with international or diversity focus</i>	3

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Total	14
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<u>Summer</u>	<u>Credits</u>
CHM 2210 Organic Chemistry 1	3
Gordon Rule 6000-word course	3
Total	6
Semester 5	Credits
CHM 2210 Organic Chemistry 2, 3 credits, and CHM 2211L Organic Chemistry Laboratory 2, 2 credits	5
PLS 3004C Principles of Plant Science	3
Ethical and Social Issues Ethical and Social Issues elective	3
Production Agriculture Plant Pest Management elective	3
Plant Production and Management elective	3
Total	14

Semester 6	Credits
AGR 4320 Plant Breeding AGR 3303 Genetics	3
BCH 3025 Fundamentals of Biochemistry or BCH 4024 Introduction to Biochemistry and Molecular Biology CHM 2211 Organic Chemistry 2, 3 credits, and CHM 2211L Organic Chemistry Laboratory, 2 credits	4
MCB 3020 Basic Biology of Microorganisms, 3 credits, and MCB 3020L Basic Biology of Microorganisms Laboratory, 1 credit	4
Molecular Biology and Genetics Plant Pest Management elective	3
Total	14

Summer	Credits
PLS 4941 Practical Work Experience	3
Total	3

Semester 7	Credits
AGR 4320 Plant Breeding PLS 3223 Plant Propagation, 2 credits, and PLS 3223L Plant Propagation Laboratory	3
BCH 3025 Fundamentals of Biochemistry PLP 3002C Fundamentals of Plant Pathology	4
Production Agriculture Approved elective	3
Ecology and the Environment Ecology and the Environment elective	3
Molecular Biology and Genetics Molecular Biology and Genetics elective	3
Total	16

Semester 8	Credits
AGR 4512 Physiology and Ecology of Crops	3

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PLS 4950 Plant Science Capstone	3
Approved elective ORH 4933 Professional Seminar	3
AGR 4126 Plant Chromosomes and Genomes Molecular Biology and Genetics elective	3
AEB 4126 Agricultural and Natural Resource Ethics WR6	<u>3</u>
Total	<u>13</u>

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Approved Electives: Minimum 216 credits

Choose courses from each focus area; minimum credits for each area listed below. All electives are to be approved by advisor. ~~Remaining 5 credits to be approved by student's faculty advisor.~~ Consult an advisor for other options, which may include study abroad courses.

Molecular Biology and Genetics: Minimum 6 credits

[HOS 3305 Introduction to Plant Molecular Biology](#)
[HOS 4313C Laboratory Methods in PMCB](#)
[MCB 4304 Genetics of Microorganisms](#)
[MCB 4320C Bacterial Genome Sequencing and Analysis](#)
[MCB 5305L Microbial Genetics and Biotechnology Laboratory](#)
[PCB 4522 Molecular Genetics \(3\)](#)

~~AGR 4304 Plant Chromosomes and Genomes (3)~~
~~HOS 3305 Introduction to Plant Molecular and Cellular Biology (3)~~
~~HOS 4313C Laboratory Methods in Plant Molecular and Cellular Biology (2)~~
~~MCB 4304 Genetics of Microorganisms (3)~~
~~MCB 4320C Bacterial Genome Sequencing and Analysis (3)~~
~~MCB 5305L Microbial Genetics and Biotechnology Laboratory (2)~~
~~ORH 4528L Advanced Laboratory in Biotechnology (1)~~
~~PCB 4522 Molecular Genetics (3)~~
~~PCB 5065 Advanced Genetics (4)~~

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Plant Pest Management: Minimum 6 credits

~~ENY 3005 and 3005L Principles of Entomology (2) and Laboratory (1)~~
~~HOS 4905 Organic Weed Management (3)~~
~~IPM 3022 Fundamentals of Pest Management (3)~~
~~NEM 3002 Principles of Nematology (3)~~
~~PLP 3002C Fundamentals of Plant Pathology (4)~~
~~PLS 4601C Principles of Weed Science (3)~~

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Plant Production Agriculture and Management: Minimum 63 credits

[AGR 4212 Alternative Cropping Systems \(3\)](#)
[AGR 4214C Applied Field Crop Production \(3\)](#)
[AGR 4231C Forage Science and Range Management \(4\)](#)
[AGR 4932 Tropical Cropping Systems \(3\)](#)
[AOM 3734 Irrigation Principles and Practices in Florida \(3\)](#)
[AOM 4434 Precision Agriculture \(3\)](#)
[AOM 4455 Agricultural Operations and Systems \(3\)](#)
[HOS 3281C Principles of Organic and Sustainable Production \(3\)](#)
[HOS 4283C Advanced Organic and Sustainable Production \(3\)](#)
[PLS 4242C Micropropagation of Horticultural Crops \(4\)](#)
[SWS 3022 and 3022L Introduction to Soils in the Environment \(3\) and Laboratory \(1\)](#)

~~[AGR 4212 Alternative Cropping Systems \(3\)](#)~~
~~[AGR 4214C Applied Field Crop Production \(3\)](#)~~
~~[AGR 4231C Forage Science and Range Management \(4\)](#)~~
~~[AGR 4932 Tropical Cropping Systems \(3\)](#)~~
~~[HOS 3281C Principles of Organic and Sustainable Production \(3\)](#)~~
~~[HOS 3430C Nutrition of Horticulture Crops \(3\)](#)~~
~~[HOS 4283C Advanced Organic and Sustainable Production \(3\)](#)~~
~~[HOS 4341 Advanced Horticultural Physiology \(3\)](#)~~
~~[PLS 4242C Micropropagation of Horticultural Crops \(4\)](#)~~
~~[SWS 3022 and 3022L Introduction to Soils in the Environment \(3\) and Laboratory \(1\)](#)~~
~~[SWS 4116 Environmental Nutrient Management \(3\)](#)~~

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Ecology and the Environment: Minimum 3 credits

[ALS 3133 Agricultural and Environmental Quality](#)
[ALS 3153 Agricultural Ecology](#)
[ALS 4154 Global Agroecosystems](#)
[EES 4103 Applied Ecology](#)
[EVS 3000 Environmental Science](#)
[PCB 4043C General Ecology](#)
[PCB 3601C Plant Ecology](#)

~~[AGG 3501 Environment, Food and Society \(3\)](#)~~
~~[ALS 3133 Agricultural and Environmental Quality \(3\)](#)~~
~~[ALS 3153 Agricultural Ecology \(3\)](#)~~
~~[EES 4103 Applied Ecology \(2\)](#)~~
~~[EVS 3000 Environmental Science \(3\)](#)~~

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~~PCB 4043C General Ecology (4)~~

Ethical and Social Issues: Minimum 3 credits

- ~~[AGG 3501 Environment, Food, and Society \(3\)](#)~~
- ~~[AEB 4123 Agricultural and Natural Resource Law \(3\)](#)~~
- ~~[IDS 2154 Facets of Sustainability \(3\)](#)~~
- ~~[PHM 3032 Ethics and Ecology \(3\)](#)~~
- ~~[POT 3503 Environmental Ethics and Politics \(3\)](#)~~
- ~~[PUP 3204 Politics and Ecology \(3\)](#)~~

- ~~[AEB 4126 Agricultural and Natural Resource Ethics \(3\)](#)~~
- ~~[IDS 2154 Facets of Sustainability \(3\)](#)~~
- ~~[PHM 3032 Ethics and Ecology \(3\)](#)~~
- ~~[POT 3503 Environmental Ethics and Politics](#)~~
- ~~[PUP 3204 Politics and Ecology \(3\)](#)~~

Other Approved Elective(s) – Advisor Approved: Minimum 3 credits

See advisor for options.

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Bachelor of Science: Plant Health and Protection

Critical Tracking-Model Semester Plan

~~[This specialization is designed for students who want to pursue careers related to plant health management in the public or private sector. It will prepare students for entry into the workplace in insect and disease control, plant diagnostics, crop production management, plant pathology and entomology research, plant growth consulting, integrated pest management, cooperative extension or to pursue advanced degrees in plant pathology, entomology, plant medicine, or other related disciplines. This specialization is designed for students who want to pursue careers related to plant health management in the public or private sector or advanced degrees in plant pathology, plant medicine or other plant disciplines.](#)~~

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.

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Equivalent critical-tracking courses as determined by the State of Florida [Common Course Prerequisites](#) may be used for transfer students.

Semester 1

- Complete 2 of 6 critical-tracking courses, excluding labs: ~~AEB 2014~~ or ECO 2013 or ~~ECO 2023~~; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; CHM 2046/2046L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1	Credits
BOT 2010C Introductory Botany, 3 credits <i>OR</i> BSC 2010 Integrated Principles of Biology 1, 3 credits, and BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit, <i>State Core: {GE-B/P}</i>	3-4
MAC 1147 Precalculus: Algebra and Trigonometry <i>State Core: GE-M</i>	4
ENC 1101 Expository and Argumentative Writing <i>State Core: GE-C; WR6</i>	3
MUL 2010 Experiencing Music <i>State Core: GE-H; N WR</i>	3
Total	13-14

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Semester 2	Credits
BOT 2011C Plant Diversity <i>OR</i> BSC 2011 Integrated Principles of Biology 2, 3 credits, and BSC 2011L Integrated Principles of Biology Laboratory 2, 1 credit <i>GE-B/P</i>	4
IUF 1000 What is the Good Life? <i>GE-H</i>	3
MAC 2233 Survey of Calculus 1 STA 2023 Introduction to Statistics 1 <i>GE-M</i>	3
ENC 2210 Technical Writing <i>GE-C; WR6</i>	3
Electives	4
Total	13-14

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Semester 3	Credits
AEB 2014 Economic Issues, Food and You, 3 credits, or ECO 2013 Principles of Macroeconomics, 4 credits, or ECO 2023 Principles of Microeconomics, 4 credits <i>State core: GE-S</i>	3-4
AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking AEC 3033C Research and Business Writing in Agricultural and Life Sciences <i>WR</i>	3
CHM 2045 General Chemistry 1, 3 credits, and CHM 2045L General Chemistry 1 Laboratory, 1 credit <i>State Core GE-B/P</i>	4
AMH 2020 United States Since 1877 <i>Social and Behavioral Sciences</i>	3

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<u>State Core GE-S; D</u>		
Total		13 14
Semester 4		Credits
<u>PLS 3004C Principles of Plant Science</u> AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking		3
CHM 2046 General Chemistry 2, 3 credits, and CHM 2046L General Chemistry 2 Laboratory, 1 credit GE-B/P		4
<u>SWS 3022 Introduction to Soils in the Environment</u> PHY 2004 Applied Physics 1, 3 credits, and SWS 3022 Introduction to Soils in the Environment Laboratory, 1 credit PHY 2004L Laboratory for Applied Physics 1, 1 credit GE-B/P		4
<u>ENY 3005 Principles of Entomology, 2 credits, and ENY 3005L Principles of Entomology, 1 credit GE-B/PElective</u>		3
<u>Humanities (GE-H) or Social and Behavioral Sciences (GE-S)</u>		3
Total		14 7
Summer		Credits
<u>Advisor approved elective</u>		3
<u>Gordon Rule 6000-word course WR6</u>		3
<u>Total</u>		6
Semester 5		Credits
<u>ORH 3513C Environmental Plant Identification and Use, or BOT 2710C Practical Plant Taxonomy, or BOT 3151C Local Flora of North Florida</u> AGR 3303 Genetics		3
<u>CHM 2210 Organic Chemistry 1</u>		3
<u>PLP 3002C Fundamentals of Plant Pathology</u>		4
<u>PLS 3004C Principles of Plant Science</u>		3
<u>Advisor approved elective</u> <u>Plant Pathology elective</u>		3
Total		13 6
Semester 6		Credits
<u>CHM 2211 Organic Chemistry 2, 3 credits, and CHM 2211L Organic Chemistry Lab, 2 credits</u> AGR3303 Genetics		3 5
<u>HOS 3430C Plant Nutrition</u> <u>ORH 4256 Nutritional Monitoring and Management, or SWS 4116 Environmental Nutrient Management</u>		3
<u>IPM 3022 Integrated Pest Management</u> <u>Microbiology and Molecular Biology elective</u>		3

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Advisor approved Plant Pest Management elective	3
Advisor approved elective	3
Total	154

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Summer	Credits
PLS 4941 Practical Work Experience	3
Total	3

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Semester 7	Credits
BCH 4024 Introduction to Biochemistry and Molecular Biology Any Plant Pathology elective	34
Any approved Entomology electiveApproved electives	34
Advisor approved Ethical and Social Issues elective	3
Advisor approved Production Agriculture elective	3
Advisor approved elective	2
Total	14

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Semester 8	Credits
PLS 4950 Plant Science Capstone	3
HOS 4304 Horticultural Physiology, or AGR 4512 Crop Ecology and Physiology	3
ORH 4933 Professional Seminar	1
AEB 4126 Agricultural and Natural Resource Ethics	3
PLS 3223 Plant Propagation, 2 credits, and PLS 3223 Plant Propagation, 1 credit	3
Advisor approved Approved electives	27
Total	153

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Approved Electives: Minimum 226 credits

In addition to the [Plant Pathology elective](#) and the [Entomology elective](#) in Semester 7, there are [22 additional elective credits](#) to be completed. Choose courses from each focus area; minimum credits for each area listed below. ~~Remaining 11~~ Elective credits to be approved by student's faculty advisor. Consult an advisor for other options, which may include study abroad courses.

Plant Pathology: Minimum 3 credits

[PLP 3103C Plant Disease Control \(3\)](#)

[PLP 4104 Applied Disease Management \(3\)](#)

[PLP 4222C Introduction to Plant Virology \(3\)](#)

[PLP 4242C Introduction to Plant Bacteriology \(3\)](#)

[PLP 4260C Introduction to Plant Pathogenic Fungi \(3\)](#)
[PLP 4653C Basic Fungal Biology \(4\)](#)
[PLP 4905 Applied Disease Management \(3\)](#)
[PLP 4931 Undergraduate seminar \(1\)](#)

~~[PLP 3103C Plant Disease Control \(3\)](#)~~
~~[PLP 4222C Plant Virology \(3\)](#)~~
~~[PLP 4242C Bacterial Plant Pathogens \(3\)](#)~~
~~[PLP 4653C Basic Fungal Biology \(4\)](#)~~
~~[PLP 4931 Undergraduate seminar \(1\)](#)~~

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Entomology (Select minimum of 3 credits)

~~[NEM 3002 Principles of Nematology \(3\)](#)~~
~~[ALS 3153 Agricultural Ecology \(3\)](#)~~
~~[ALS 4161 Exotic Species and Biosecurity Issues \(3\)](#)~~
~~[ALS 4162 Consequences of Biological Invasions \(3\)](#)~~
~~[ALS 4163 Challenges in Plant Resource Protection \(3\)](#)~~
~~[ENY 3005 Principles of Entomology \(2\) and ENY 3005L Principles of Entomology Lab \(1\)](#)~~
~~[ENY 3510C Turf and Ornamental Entomology \(3\)](#)~~
~~[ENY 4161 Insect Classification \(3\)](#)~~
~~[ENY 4573 Beekeeping \(3\)](#)~~

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Ethical and Social Issues: Minimum 3 credits

~~[AEB 4123 Agricultural and Natural Resource Law \(3\)](#)~~
~~[AGG 3501 Food, Environment & Society \(3\)](#)~~
~~[AGR 2332 Seeds of Change \(3\)](#)~~
~~[IDS 2154 Facets of Sustainability \(3\)](#)~~
~~[PHM 3032 Ethics and Ecology \(3\)](#)~~
~~[POT 3503 Environmental Ethics and Politics \(3\)](#)~~
~~[PUP 3204 Politics and Ecology \(3\)](#)~~
~~[REL 4173 Religion, Ethics and Sustainable Agriculture \(3\)](#)~~

~~[AEB 4123 Agricultural and Natural Resource Law \(3\)](#)~~
~~[AEB 4126 Agricultural and Natural Resource Ethics \(3\)](#)~~
~~[IDS 2154 Facets of Sustainability \(3\)](#)~~
~~[PHM 3032 Ethics and Ecology \(3\)](#)~~
~~[POT 3503 Environmental Ethics and Politics \(3\)](#)~~
~~[PUP 3204 Politics and Ecology \(3\)](#)~~

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Microbiology and Molecular Biology: Minimum 3 credits

[HOS 3305 Introduction to Plant Molecular and Cellular Biology \(3\)](#)
[HOS 4313C Laboratory Methods in Molecular Biology \(3\)](#)
[MCB 3020 and 3020L Basic Biology of Microorganisms \(3\) and Laboratory \(1\)](#)
[MCB 4304 Genetics of Microorganisms \(3\)](#)
[MCB 4320C Bacterial Genome Sequence Analysis \(3\)](#)
[PCB 4522 Molecular Genetics \(3\)](#)
[SWS 4303C Soil Microbial Ecology \(3\)](#)
[CHM 2211 & 2211L Organic Chemistry 2 \(5\)](#)
[BCH 4024 Introduction to Biochemistry and Molecular Biology \(4\)](#)

~~[HOS 3305 Introduction to Plant Molecular and Cellular Biology \(3\)](#)~~
~~[HOS 4313C Laboratory Methods in Molecular Biology \(3\)](#)~~
~~[MCB 3020 and 3020L Basic Biology of Microorganisms \(3\) and Laboratory \(1\)](#)~~
~~[MCB 4304 Genetics of Microorganisms \(3\)](#)~~
~~[MCB 4320C Bacterial Genome Sequence Analysis \(3\)](#)~~
~~[PCB 4522 Molecular Genetics \(3\)](#)~~
~~[SWS 4303C Soil Microbial Ecology \(3\)](#)~~

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Plant Pest Management: Minimum 3 credits

[ENY 3005 and 3005L Principles of Entomology \(2\) and Principles of Entomology Laboratory \(1\)](#)
[ENY 4905 Invasive Species \(3\)](#)
[NEM 3002 Principles of Nematology \(3\)](#)
[PLS 4601C Principles of Weed Science or HOS 4905 Organic Weed Management \(3\)](#)

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Production Agriculture: Minimum 3 credits

[AEB 3122 Financial Planning for Agribusiness \(3\)](#)
[AEB 3133 Principles of Agribusiness Management \(3\)](#)
[AEB 4342 Agribusiness and Food Marketing Management \(3\)](#)
[AGR 4212 Alternative Cropping Systems \(3\)](#)
[AGR 4214C Applied Field Crop Production \(3\)](#)
[AGR 4231C Forage Science and Range Management \(4\)](#)
[AGR 4932 Tropical Cropping Systems \(3\)](#)
[AOM 3734 Irrigation Principles and Practices in Florida \(3\)](#)

[AOM 4434 Precision Agriculture \(3\)](#)
[AOM 4455 Agricultural Operations and Systems \(3\)](#)
[HOS 3281C Principles of Organic and Sustainable Production \(3\)](#)
[HOS 4283C Advanced Organic and Sustainable Production \(3\)](#)
[PLS 4242C Micropropagation of Horticultural Crops \(4\)](#)
[SWS 3022 and 3022L Introduction to Soils in the Environment \(3\) and Laboratory \(1\)](#)

[AEB 3122 Financial Planning for Agribusiness \(3\)](#)
[AEB 3133 Principles of Agribusiness Management \(3\)](#)
[AEB 4342 Agribusiness and Food Marketing Management \(3\)](#)
[AGR 4212 Alternative Cropping Systems \(3\)](#)
[AGR 4214C Applied Field Crop Production \(3\)](#)
[AGR 4231C Forage Science and Range Management \(4\)](#)
[AGR 4932 Tropical Cropping Systems \(3\)](#)
[AOM 3734 Irrigation Principles and Practices in Florida \(3\)](#)
[AOM 4434 Precision Agriculture \(3\)](#)
[AOM 4455 Agricultural Operations and Systems \(3\)](#)
[HOS 3281C Principles of Organic and Sustainable Production \(3\)](#)
[HOS 4283C Advanced Organic and Sustainable Production \(3\)](#)
[PLS 4242C Micropropagation of Horticultural Crops \(4\)](#)
[SWS 3022 and 3022L Introduction to Soils in the Environment \(3\) and Laboratory \(1\)](#)

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Other Approved Electives

[PHY 2004 and 2004L Applied Physics \(4\)](#)

New Specialization

Bachelor of Science: Soil Management and Plant Productivity

Critical Tracking-Model Semester Plan

[This specialization closely integrates the study of soil science core disciplines with production agriculture and horticulture. Coursework focuses on foundational principles related to soil health, productivity, and fertility in relation to sustainable plant growth and agricultural practices. Among the principal outcomes of the program is to prepare students for certification as both Associate Professional Soil Scientists, and Certified Crop Advisors to better position graduates for employment in related fields.](#)

Critical Tracking

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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 2 of 6 critical-tracking courses, excluding labs: ECO 2013; BOT 2010C or BSC 2010/2010L; CHM 2045/2045L; CHM 2046/2046L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

[PLP 4242C Bacterial Plant Pathogens \(3\)](#)

[AOM 3333 Pesticide Application \(3\)](#)

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Production Agriculture and Management – Select minimum of 6 credit hours

[AOM 4455 Agricultural Operations and Systems \(3\)](#)

[AGR 4320 Plant Breeding \(3\)](#)

[HOS 4341 Advanced Horticultural Physiology \(3\)](#)

[ORH 4256 Nutritional Management of Nursery Crops \(3\)](#)

[AOM 3734 Irrigation Principles and Practices in Florida \(3\)](#)

[AOM 4434 Precision Agriculture \(3\)](#)

[AGR 4231C Forage Science and Range Management \(4\)](#)

[AGR 4932 Tropical Cropping Systems \(3\)](#)

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Organic and Alternative Agriculture – Select minimum of 3 credit hours

[HOS 4905 Organic Weed Management \(3\)](#)

[AGR 4212 Alternative Cropping Systems \(3\)](#)

[HOS 3281C Principles of Organic and Sustainable Production \(3\)](#)

[HOS 4283C Advanced Organic and Sustainable Production \(3\)](#)

[REL 4173 Religion, Ethics and Sustainable Agriculture \(3\)](#)

Agribusiness – Select minimum of 3 credit hours

[AEB 3133 Principles of Agribusiness Management \(3\)](#)

[AEB 4342 Agribusiness and Food Marketing Management \(3\)](#)

[AEB 3122 Financial Planning for Agribusiness \(3\)](#)

Bachelor of Science: Restoration Horticulture

Critical Tracking Model Semester Plan

This specialization prepares students to apply horticultural based knowledge to the establishment, management and protection of plant communities. This background will develop proficiency in many areas of applied plant science, including native/rare plant propagation, ex situ plant conservation, weed control, nursery production of native plants, and planting design and specification.

Critical Tracking

Semester 1	Credits
BOT 2010C Introductory Botany	3
GE-B	
MAC 1147 Precalculus: Algebra and Trigonometry	4
State Core GE-M	
Composition	3
State Core GE-C; WR	
Humanities	3
State Core GE-H	
Total	13

Semester 2	Credits
BOT 2011C Plant Diversity	4
GE-B	
HUF 1000 What is the Good Life	3
GE-H	
MAC 2233 Survey of Calculus I	3
GE-M	
Elective with international or diversity focus	3
Social and Behavioral Sciences	3
State Core GE-S	
Total	16

Semester 3	Credits
AEB 2014 Economic Issues, Food and You, 3 credits, or	
ECO 2013 Principles of Macroeconomics, 4 credits, or	
ECO 2023 Principles of Microeconomics, 4 credits	3-4
GE-S	
AEC 3033C Research and Business Writing in Agricultural and Life Sciences	3
WR	
CHM 2045 General Chemistry 1, 3 credits, and	
CHM 2045L General Chemistry Laboratory 1, 1 credit	4
State Core GE-B/P	
Elective with international or diversity focus	3
Humanities (GE-H) or	
Social and Behavioral Sciences (GE-S)	3
Total	16-17

Semester 4	Credits
AEC 3030C Effective Oral Communication or	
SPC 2608 Public Speaking	3
CHM 2046 General Chemistry 2, 3 credits, and	
CHM 2046L General Chemistry 2 Laboratory, 1 credit	4
GE-P	

~~PHY 2004 Applied Physics 1 or
 PHY 2020 Introduction to Principles of Physics 3
 GE B/P
 STA 2023 Introduction to Statistics 1
 GE M
 Composition 3
 GE C, WR~~

~~Total 16~~

~~**Semester 5 Credits**~~

~~BSC 2011 Integrated Principles of Biology 2
 GE B
 ORH 3513C Environmental Plant Identification and Use 3
 ORH 4848 Landscape Plant Establishment 2
 PLS 3004C Principles of Plant Science 3
Natural Resource Management elective 3~~

~~Total 14~~

~~**Semester 6 Credits**~~

~~BOT 3151C Local Flora 3
 EVR 3323 Introduction to Ecosystem Restoration 4
 PCB 4043C General Ecology 4
 SWS 3022 Introduction to Soils in the Environment, 3 credits, and
 SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit~~

~~Total 15~~

~~**Summer Credits**~~

~~PLS 4941 Practical Work Experience 3~~

~~Total 3~~

~~**Semester 7 Credits**~~

~~HOS 4304 Horticultural Physiology 3
 PLS 3223 Plant Propagation, 2 credits, and
 PLS 3223L Plant Propagation Laboratory, 1 credit 3
 PLS 4242C Micropropagation of Horticultural Crops 4
 PLS 4601C Principles of Weed Science 3
Ecology elective 3~~

~~Total 15~~

~~**Semester 8 Credits**~~

~~PCB 3601C Plant Ecology 3
 PLS 4950 Plant Science Capstone 3
Ecology elective 3
Tools and Applications elective 3~~

~~Total 12~~

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~~Approved Electives: Minimum 11 credits~~

~~Choose courses from each focus area; minimum credits for each area listed below. Consult an advisor for other options, which may include study abroad courses.~~

~~Natural Resource Management: Minimum 3 credits~~

~~FOR 3214 Fire in Natural Resource Management (2)~~

~~FOR 4110 Ecology and Restoration of Longleaf Pine Ecosystem (3)~~

~~WIS 3401 Wildlife Ecology and Management (3)~~

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~~Ecology: Minimum 5 credits~~

~~FOR 3153C Forest Ecology (2)~~

~~FOR 4090C Urban Forestry (2)~~

~~PCB 2441 Biological Invaders (3)~~

~~SWS 4244 Wetlands (3)~~

~~WIS 3402 Wildlife of Florida (2)~~

~~WIS 4203C Introduction to Landscape Ecology (2)~~

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~~Tools and Applications: Minimum 3 credits~~

~~AOM 3333 Pesticide Application (3)~~

~~EES 4027 Spatial Analysis Using Geographic Information Systems (3)~~

~~EES 4050 Environmental Planning and Design (3)~~

~~STA 3024 Introduction to Statistics 2 (3)~~

~~SWS 4720C GIS in Soil and Water Science (3)~~

~~SWS 4932 Environmental Techniques (3)~~

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Bachelor of Science: Sustainable **CropFood** Production

[Critical Tracking-Model Semester Plan](#)

[This specialization prepares students for professions related to crop production and management. Students will explore and understand production practices that meet present world food needs without compromising quality of life for future generations. Courses emphasize crop ecosystem](#)

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[function, aquatic and terrestrial weed management, the importance of insects to crops and optimizing management techniques including energy utilization, nutrient management, and soil and water conservation.](#)

[This specialization prepares students for professions in crop production and management. Students will explore and understand production practices that meet present world food needs without compromising quality of life for future generations. Courses emphasize aquatic and terrestrial weed management, optimizing management practices \(including energy utilization, nutrient management and tillage for soil and water conservation\), sustainability and environmental issues.](#)

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 2 of 5 critical-tracking courses, excluding labs: ~~AEB 2014~~ or ECO 2013 or ~~ECO 2023~~; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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 all critical-tracking courses, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1	Credits
BOT 2010C Introductory Botany, 3 credits <i>GE-B/P</i> OR BSC 2010 Integrated Principles of Biology 1, 3 credits, and BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit, <i>State core: +GE-B/P+</i>	3-4
MAC 1147 Precalculus: Algebra and Trigonometry <i>State Core GE-M</i>	4
<i>ENC 1101 Expository and Argumentative Writing Composition</i> <i>State Core GE-C; WR6</i>	3
<i>Elective with international or diversity focus</i>	3
<i>MUL 2010 Experiencing Music Humanities</i> <i>State Core GE-H; N</i>	3
Total	13 17
Semester 2	Credits
BOT 2011C Plant Diversity <i>State core; GE-B/P</i> OR BSC 2011 Integrated Principles of Biology 2, 3 credits, and BSC 2011L Integrated Principles of Biology Laboratory 2, 1 credit <i>State core: GE-B/P</i>	4
IUF 1000 What is the Good Life? <i>GE-H</i>	3
STA 2023 Introduction to Statistics 1 <i>GE-M</i>	3
<i>Elective with international or diversity focus</i>	3

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ENC 2210 Technical Writing Social and Behavioral Sciences GE-C <u>State Core GE-S; WR6</u>	3
Total	136

Semester 3	Credits
AEB 2014 Economic Issues, Food and You, 3 credits, or ECO 2013 Principles of Macroeconomics, 4 credits, or ECO 2023 Principles of Microeconomics, 4 credits State core; GE-S	3-4
AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking AEC 3033C Research and Business Writing in Agricultural and Life Sciences WR	3
CHM 2045 General Chemistry 1, 3 credits, and CHM 2045L General Chemistry 1 Laboratory, 1 credit State Core GE-B/P	4
AMH 2020 United States Since 1877 Electives GE-S; D	3 5
Total	145-16

Semester 4	Credits
AGR 3303 Genetics AEC 3030C Effective Oral Communication or SPC 2608 Public Speaking	3
ALS 2410 Challenge 2050 PHY 2004 Applied Physics 1, 3 credits, and PHY 2004L Laboratory for Applied Physics 1, 1 credit	34
SWS 3022 Introduction to Soils in the Environment, 3 credits, and SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit Composition GE-C; WR GE-B/P	43
Advisor approved elective Humanities (GE-H) or Social and Behavioral Sciences (GE-S)	3
Total	13

Summer	Credits
Gordon rule 6000-word course WR6	3
Advisor approved elective	3
Total	6

Semester 5	Credits
BCH 3023 Elementary Organic and Biological Chemistry	3
PLS 3004C Principles of Plant Science	3
PLP 3002C Fundamentals of Plant Pathology GE-B/PSWS 3022 Introduction to Soils in the Environment, 3 credits, and	4

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SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit	
Advisor approved Plant Pest Management elective	3
Total	13

Semester 6		Credits
AGGR 3501 Environment Food & Society	3303 Genetics	3
AGR 4214C Applied Field Crop Production	4512 Physiology and Ecology of Crops	3
Advisor approved Management and Sales elective		3
Advisor approved Plant Improvement, Growth and Development elective		3
Advisor approved Plant Production and Management elective		23
Total		145

Summer	Credits
PLS 4941 Practical Work Experience	3
Total	3

Semester 7		Credits
PLS 4601 Principles of Weed Science	Ecology and the Environment elective	3
PLS 3223 Plant Propagation, 2 credits, and	PLS 3223L Plant Propagation Laboratory	3
Advisor approved Management and Sales elective		3
Advisor approved Plant Pest Management elective		3
Advisor approved Plant Production and Management elective		3
Total		15

Semester 8		Credits
PLS 4950 Plant Science Capstone Experience	AGR 4905, ORH 4905, or PLP 4905	3
ORH 4933 Professional Seminar	Approved elective	12
AEB 4126 Agricultural and Natural Resource Ethics		3
AGR 4212 Alternative Cropping Systems	Ecology and the Environment elective	3
AGR 4512 Crop Ecology and Physiology, or	HOS 4304 Horticultural Physiology	3
Advisor approved Plant Production and Management electives		36
Total		164

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Approved Electives: Minimum 2938 credits

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Plant Improvement, Growth and Development: Minimum 3 credits
Plant Pest Management: Minimum 66 credits

- ENY 3005 and 3005L Principles of Entomology (2) and Principles of Entomology Laboratory (1)
- ENY 4905 Invasive Species (3)
- NEM 3002 Principles of Nematology (3)
- HOS 4905 Organic Weed Management (3)

- ENY 3005 and 3005L Principles of Entomology (2) and Laboratory (1)
- HOS 4905 Organic Weed Management (3)
- IPM 3022 Fundamentals of Pest Management (3)
- NEM 3002 Principles of Nematology (3)
- PLP 3002C Fundamentals of Plant Pathology (4)
- PLS 4601C Principles of Weed Science (3)

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Ecology and the Environment: Minimum 66 credits

- ALS 3133 Agricultural and Environmental Quality (3)
- ALS 3153 Agricultural Ecology (3)
- ALS 4154 Global Agroecosystems (3)
- EES 4103 Applied Ecology (3)
- EVS 3000 Environmental Science (3)
- FOR 3153C Forest Ecology (3)
- FOR 4090C Urban Forestry (3)
- ORH 3815C Florida Native Landscaping (3)
- SWS 4244 Wetlands (3)
- WIS 3401 Wildlife Ecology and Management (3)
- WIS 3402 Wildlife of Florida (3)
- WIS 4203C Introduction to Landscape Ecology (3)

- AGG 3501 Environment, Food and Society (3)
- ALS 3133 Agricultural and Environmental Quality (3)
- ALS 3153 Agricultural Ecology (3)
- EES 4103 Applied Ecology (2)
- EVS 3000 Environmental Science (3)
- GEO 3372 Conservation of Resources (3)
- PCB 3601C Plant Ecology (3)
- PCB 4043C General Ecology (4)
- SWS 4231C Soil, Water and Land Use (3)
- SWS 4245 Water Resource Sustainability (3)

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Ethical and Social Issues: Minimum 53 credits

[AEB 4123 Agricultural and Natural Resource Law \(3\)](#)

[IDS 2154 Facets of Sustainability \(3\)](#)

[PHM 3032 Ethics and Ecology \(3\)](#)

[POT 3503 Environmental Ethics and Politics \(3\)](#)

[PUP 3204 Politics and Ecology \(3\)](#)

[REL 4173 Religion, Ethics and Sustainable Agriculture \(3\)](#)

~~AEB 4126 Agricultural and Natural Resource Ethics (3)~~

~~IDS 2154 Facets of Sustainability (3)~~

~~PHM 3032 Ethics and Ecology (3)~~

~~POT 3503 Environmental Ethics and Politics (3)~~

~~PUP 3204 Politics and Ecology (3)~~

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New Specialization

Bachelor of Science: Turfgrass Science

Critical Tracking-Model Semester Plan

[This specialization combines the study of grasses, soils, water, and pests affecting turf with the study of business and management. Career opportunities include work with golf courses, sports turf facilities, lawn-care companies, parks, agrichemical industries, cemeteries, environmental consulting firms, sod farms, government agencies, and preparation for graduate school.](#)

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 2 of 6 critical-tracking courses, excluding labs: ECO 2013; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 2045/2045L; CHM 2046/2046L; MAC 1147](#)
- [2.0 GPA required for all critical-tracking courses](#)
- [2.0 UF GPA required](#)

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Semester 2

- Complete 1 additional critical-tracking course, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

<u>Semester 1</u>	<u>Credits</u>
<u>BOT 2010C Introductory Botany, 3 credits</u> <u>GE-B/P</u> <u>OR</u> <u>BSC 2010 Integrated Principles of Biology 1, 3 credits, and</u> <u>BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit,</u> <u>State core; GE-B/P</u>	<u>3-4</u>
<u>MAC 1147 Precalculus: Algebra and Trigonometry</u> <u>State Core GE-M</u>	<u>4</u>

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<u>ENC 1101 Expository and Argumentative Writing</u> <u>State Core GE-C; WR6</u>	<u>3</u>
<u>MUL 2010 Experiencing Music</u> <u>State Core GE-H; N</u>	<u>3</u>
<u>Total</u>	<u>13</u>
Semester 2	
Credits	
<u>BOT 2011C Plant Diversity</u> <i>State core; GE-B/P</i> <i>OR</i> <u>BSC 2011 Integrated Principles of Biology 2, 3 credits, and</u> <u>BSC 2011L Integrated Principles of Biology Laboratory 2, 1 credit</u> <i>State core; GE-B/P</i>	<u>4</u>
<u>IUF 1000 What is the Good Life?</u> <u>GE-H</u>	<u>3</u>
<u>STA 2023 Introduction to Statistics 1</u> <u>GE-M</u>	<u>3</u>
<u>ENC 2210 Technical Writing</u> <u>GE-C; WR6</u>	<u>3</u>
<u>Total</u>	<u>13</u>
Semester 3	
Credits	
<u>ECO 2013 Principles of Macroeconomics, 4 credits,</u> <i>State core; GE-S</i>	<u>4</u>
<u>AEC 3030C Effective Oral Communication or</u> <u>SPC 2608 Public Speaking</u>	<u>3</u>
<u>CHM 2045 General Chemistry 1, 3 credits, and</u> <u>CHM 2045L General Chemistry 1 Laboratory, 1 credit</u> <i>State Core GE-B/P</i>	<u>4</u>
<u>AMH 2020 United States Since 1877</u> <u>GE-S; D</u>	<u>3</u>
<u>Total</u>	<u>14</u>
Semester 4	
Credits	
<u>PHY 2004 Applied Physics 1, 3 credits, and</u> <u>PHY 2004L Applied Physics Laboratory 1, 1 credit</u> <u>GE-B/P</u>	<u>4</u>
<u>ALS 3133 Agriculture and Environmental Quality</u>	<u>3</u>
<u>SWS 3022 Introduction to Soils in the Environment, 3 credits, and</u> <u>SWS 3022L Introduction to Soils in the Environment Laboratory, 1 credit</u> <u>GE-B/P</u>	<u>4</u>

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Agribusiness elective	3
<u>Total</u>	<u>14</u>
<u>Summer</u>	
Gordon rule 6000-word course WR6	3
ENY 3005 Principles of Entomology, 2 credits, and ENY 3005L Principles of Entomology, 1 credit GE-B/0, OR ENY 3510C Turf & Ornamental Entomology	3
<u>Total</u>	<u>6</u>

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<u>Semester 5</u>	<u>Credits</u>
ORH 3222C Turfgrass Culture	4
PLS 3004C Principles of Plant Science	3
BCH 3023 Elementary Organic and Biological Chemistry	3
ORH 3513C Environmental Plant Identification and Use	3
<u>Total</u>	<u>13</u>

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<u>Semester 6</u>	<u>Credits</u>
ORH 4223 Golf and Sports Turf Management	2
ORH 4236C Ornamental Landscape Management	3
AGR 4512 Crop Ecology and Physiology Or HOS 4304 Horticultural Physiology	3
SWS 4116 Environmental Nutrient Management	3
Agribusiness elective	3
<u>Total</u>	<u>14</u>

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<u>Summer</u>	<u>Credits</u>
PLS 4941 Practical Work Experience	3
<u>Total</u>	<u>3</u>

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<u>Semester 7</u>	<u>Credits</u>
<u>PLS 4601 Principles of Weed Science</u>	<u>3</u>
<u>PLS 3223 Plant Propagation, 2 credits, and PLS 3223L Plant Propagation Laboratory</u>	<u>3</u>
<u>PLP 3002C Fundamentals of Plant Pathology</u>	<u>4</u>
<u>AEB 4126 Agricultural and Natural Resource Ethics</u>	<u>3</u>
<u>Agribusiness elective</u>	<u>3</u>
<u>Total</u>	<u>16</u>

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<u>Semester 8</u>	<u>Credits</u>
<u>PLS 4950 Plant Science Capstone</u>	<u>3</u>
<u>ORH 4933 Professional Seminar</u>	<u>1</u>
<u>Pest Management elective</u>	<u>3</u>
<u>Pest Management elective</u>	<u>3</u>
<u>Advisor approved elective</u>	<u>4</u>
<u>Total</u>	<u>14</u>

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Approved Electives: Minimum 19 credits – All must be advisor approved

Consult an advisor for other options, which may include study abroad courses.

Pest Management (Select 6 credits)

- NEM 3002 Principles of Nematology (3)
- ENY 4161 Insect Classification (3)
- AOM333 Pesticide Application Techniques (3)
- IPM 4254 Landscape IPM: Ornamentals and Turf (3)
- IPM 3022 Fundamentals of Pest Management (3)

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Professional Electives

- ORH4804 & 4804L Annual and Perennial Gardening (3)
- ORH 4848 Landscape Plant Establishment (2)
- ORH4242 Arboriculture (4)
- ORH 4905 Independent Study (1-3)

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[WIS 4443 Wetland Wildlife Resources \(3\)](#)

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[AOM 3734 Irrigation Principles and Practices for Florida \(3\)](#)

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Agribusiness - (Select 9 credits)

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[AEB 3133 Principles of Agribusiness Management \(3\)](#)

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[AEB 4424 Human Resource Management \(3\)](#)

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[AEB 3341 Selling Strategically \(3\)](#)

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[AEB 3300 Agricultural and Food Marketing \(3\)](#)

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[AEB 3144 Introduction to Agricultural Finance \(3\)](#)

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Bachelor of Arts: Community Food Systems

[Critical Tracking](#)

[Model Semester Plan](#)

This specialization is for students who want to learn about contemporary food systems from an interdisciplinary perspective. Students will learn about different food production systems and their ecological and environmental impacts and services, including consideration of political, economic, ethical, social and cultural aspects of food systems. Graduates could work in community or government food-based programs, urban agriculture and the food industry.

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 2 of 5 critical-tracking courses, excluding labs: AEB 2014 or ECO 2013 or ECO 2023; BOT 2010C or BSC 2010/2010L; BOT 2011C or BSC 2011/2011L; CHM 1030; MAC 1147
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, 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 all critical-tracking courses, 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

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Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

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.

Semester 1	Credits
BOT 2010C Introductory Botany, 3 credits	
<i>OR</i>	
BSC 2010 Integrated Principles of Biology 1, 3 credits, and	3-4
BSC 2010L Integrated Principles of Biology Laboratory 1, 1 credit, (GE-B)	
MAC 1147 Precalculus: Algebra and Trigonometry	4
<i>State Core GE-M</i>	
Composition	
<i>State Core GE-C; WR</i>	3
Physical or Biological Science	
<i>State Core GE-B/P</i>	2

Humanities 3
State Core GE-H

Total 15-16

Semester 2 Credits

BOT 2011C Plant Diversity
OR
BSC 2011 Integrated Principles of Biology 2, 3 credits, and 4
BSC 2011L Integrated Principles of Biology Laboratory 2, 1 credit
GE-B/P

IUF 1000 What is the Good Life 3
GE-H

STA 2023 Introduction to Statistics 1 3
GE-M

Approved physical science course
 ESC 1000 Introduction to Earth Science *or*
 GEO 2200 Physical Geography *or*
 PHY 2004 Applied Physics 1 *or* 3
 PHY 2020 Introduction to Principles of Physics *or*
 SWS 2007 The World of Water
GE-P

Social and Behavioral Sciences 3
State Core GE-S

Total 16

Semester 3 Credits

AEB 2014 Economic Issues, Food and You, 3 credits, or
ECO 2013 Principles of Macroeconomics, 4 credits, or 3-4
ECO 2023 Principles of Microeconomics, 4 credits
GE-S

AEC 3033C Research and Business Writing in Agricultural and Life Sciences 3
WR

CHM 1030 Basic Chemistry Concepts and Applications 1 3
GE-P

HUN 2201 Fundamentals of Human Nutrition 3

Humanities (*GE-H*) *or* 3
 Social and Behavioral Sciences (*GE-S*)

Total 15-16

Semester 4 Credits

AEC 3030C Effective Oral Communication *or* 3
 SPC 2608 Public Speaking

CHM 1031 Basic Chemistry Concepts and Applications 2 3
GE-B/P

Approved physical science course 3

ESC 1000 Introduction to Earth Science *or*
 GEO 2200 Physical Geography *or*
 PHY 2004 Applied Physics 1 *or*
 PHY 2020 Introduction to Principles of Physics *or*
 SWS 2007 The World of Water
 GE-P

Composition	3
GE-C; WR	
Elective	2
	Total 14

Semester 5 Credits

FYC 3001 Principles of Family, Youth and Community Sciences	3
PLS 3004C Principles of Plant Science	3
Cultural and Social Issues elective	3
Ecology and the Environment elective	3
Ethics elective	3
	Total 15

Semester 6 Credits

SWS 3022 Introduction to Soils in the Environment	3
Business and Organizational Management elective	3
Ecology and the Environment elective	3
Economic Issues elective	3
Production Issues elective	3
	Total 15

Summer Credits

PLS 4941 Practical Work Experience	3
	Total 3

Semester 7 Credits

URP 4000 Preview of Urban and Regional Planning	3
Approved elective	3
Business and Organizational Management elective	3
Cultural and Social Issues elective	3
Economic Issues elective	3
	Total 15

Semester 8 Credits

Capstone Experience	3
AGR 4905, ORH 4905, or PLP 4905	
URP 4273 Survey of Planned Information Systems	3
Approved elective	3

[Production Issues elective](#)

3

Total 12

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Approved Electives: Minimum 39 credits

Choose courses from each focus area; minimum credits for each area listed below. Remaining 6 credits to be approved by student's faculty advisor. Consult an advisor for other options, which may include study abroad courses.

Ethics: Minimum 3 credits

AEB 4126 Agricultural and Natural Resource Ethics (3)

REL 3171 Ethics in America (3)

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Ecology and the Environment: Minimum 6 credits

AGG 3501 Environment, Food and Society (3)

AGR 4212 Alternative Cropping Systems (3)

ALS 3133 Agricultural and Environmental Quality (3)

AOM 2520 Global Sustainable Energy: Past, Present and Future (3)

GEO 3372 Conservation of Resources (3)

IPM 3022 Fundamentals of Pest Management (3)

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Cultural and Social Issues: Minimum 6 credits

EES 4103 Food and Culture (2)

FYC 3401 Introduction to Social and Economic Perspectives on the Community (3)

FYC 4126 Urban and Rural America in Transition (3)

GEA 1000 Geography for a Changing World (3)

GEO 2410 Social Geography (3)

GEO 2420 Introduction to Human Geography (3)

SYD 4020 Population (3)

SYD 4512 Social Institutions and the Environment (3)

URP 3001 Cities of the World

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Production Issues: Minimum 6 credits

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January 9, 2017

To the CALS and University Curriculum Committees:

This communication is written in response and to offer clarification about the letter submitted by Dr. Kevin Folta, Professor and Chair of the Horticultural Sciences Department on behalf of the Horticultural Science Department faculty.

The Plant Science Committee and collaborating faculties in the Agronomy, Entomology and Nematology, Environmental Horticulture, Plant Pathology, and Soil Science Departments have jointly proposed a number of changes in the Plant Science Major curriculum that are expected to improve and clarify the character, strengthen and expand the scope of curriculum, and enhance student enrollment in this major.

One element of the proposed changes includes a slight change to the name of an already existing specialization, from "Sustainable Food Production" to "Sustainable Crop Production". This change is proposed because the change from the word "Food" to "Crop" better defines the character and content in the specialization and further distinguishes it from other majors or specializations. The word "Crop" is more inclusive in its definition and more accurately describes the scope of plants that are included in the teaching within this program of study. The crops included in the specialization not only include agronomic food crops, but also fiber crops, natural oil producing crops as well as crops that produce natural organic compounds that are used for a variety of current and evolving products and purposes, other than food. This specialization is distinctively different than the Organic Crop Production Major offered by the Horticultural Science program.

The Organic Crop Production Major is intended to focus on fruit and vegetable crop production, as that lies within the purview, programs and expertise housed within the Horticultural Science Department. The Sustainable Crop Production specialization focuses on many other crops. Additionally, the philosophy, scope and practices associated with sustainable crop production are considerably broader than organic crop production.

Organic crop production is a specified methodology of crop production that is regulated, certified and approved by the United States Department of Agriculture. Organic crop production is a highly prescribed production system. While many people may believe organic crop production is a type of sustainable crop production, and for some people it may be the only acceptable type of sustainable crop production, the converse is not necessarily true.

Farms using sustainable practices do not require any official certification. Sustainable crop production includes a much broader scope of "accepted" plant production practices, and encompasses and embraces a broader range of social, economic, financial, environmental and technical issues and considerations.

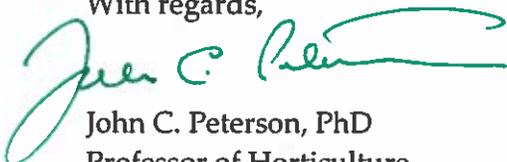
The purpose of this statement is not intended to debate or promote judgements of the two systems practices or philosophies, but rather to point out and affirm that they are different. As they are not one and the same, students who wish to study plant science and crop production deserve the opportunity to study and learn about both.

Currently, there are 19 students enrolled in the Organic Crop Production Major in the Horticulture Sciences Department and 17 students are enrolled in the Sustainable Food Production Specialization within the Plant Science Major. Current students are aware of the existence, content and character of each of the two different programs and they are gravitating to the program that best fits their goals and ambitions. There are no restrictions in place that keep students from transferring from one program to the other, if they were to choose to do so. Clearly, both programs can exist and seem to be succeeding equally, as well. There is no apparent reason to limit or discontinue either program.

There have been numerous attempts, over more than eight years, to link the Horticultural Sciences Major to the Plant Science Major, and to have the Horticultural Science Department become one of the collaborating departments. The Horticultural Science faculty previously developed a list of requirements / changes that they requested be made in the existing Plant Science Major curriculum in order for them to join the Plant Science Major. All those requirements were met, and the Horticultural Science Department still opted not to join the Plant Science Major. Discussions were also held between faculties to attempt to consolidate what seemed to be similar courses, but the faculty in both programs, after their discussions and review of syllabi, determined that their courses were sufficiently different and as the courses offered different views and content to students, the faculties determined the courses should not be consolidated.

The faculties who are now part of the newly expanded group of collaborating Plant Science Major Departments are still open to having the Horticultural Science Major join the Plant Science Major, and would welcome a proposal from the Horticultural Science Department as to how they might like to accomplish that effort.

With regards,



John C. Peterson, PhD
Professor of Horticulture
Plant Science Major, Director



Institute of Food and Agricultural Sciences
Entomology and Nematology Department

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John C. Peterson, PhD
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Graduate Coordinator, Environmental Horticulture
University of Florida
352-273-4519 Office
805-458-2954 Cell
drjohncp@ufl.edu

Subject: Letter of Support for Proposed Plant Science Major Revisions

Dr. Peterson:

As Director of the Doctor of Plant Medicine Program, I wish to thank you sharing the proposed revisions to the Plant Science Major with the DPM Faculty Advisory Committee. I am especially enthused to see the development of the new Plant Health and Protection Specialization, as it is likely to serve as conduit for students to prepare for and enter the Doctor of Plant Medicine Program. The merging of the Plant Health specialization and Plant Protection major will help facilitate further collaboration between the Entomology and Nematology Department and the Plant Pathology Department and that will be a win for the students who enroll in the Plant Science Major. I fully support the proposed changes to the Plant Science major and I encourage the approval of this new program

Please feel free to contact me by e-mail achodges@ufl.edu , phone (352) 273-3957, or mobile (352) 359-9118 should questions arise regarding my support.

Sincerely,

A handwritten signature in black ink that reads 'Amanda C. Hodges'.

Amanda C. Hodges, Ph.D.
Associate Extension Scientist & DPM Director

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

January 9, 2017

To the CALS and University Curriculum Committees:

In 2014 – 2015 a study was conducted to gain insights and perspectives as to how to go about revising the current Plant Science Major specializations so as to improve the quality and character of the program, attract more students, and provide a highly effective pathway to contemporary job opportunities for four-year graduates in the plant science industry profession. Opportunities to expand the collaboration of plant science related UF departments to the Plant Science Major were also evaluated and pursued. Input and insights were collected from UF faculty, staff, administrators and students, industry stakeholders and collaborators, as well as administrators, staff and students at two-year feeder schools throughout the state of Florida. Current, incoming and prospective UF students were surveyed, and focus group interviews were held with students at key feeder school locations throughout Florida. Current and emerging plant science related job opportunities were evaluated. The semantics that attract prospective student attention were studied, as well as the most effective channels for communicating with prospective students. The identity of individuals who are key influencers of students, and are the people who impact and influence prospective students when they are making critical academic and career decisions was studied as well. This information has been used by the faculty in the collaborating Plant Science Major Departments to revise, expand and enhance the proposed curriculum for the new Plant Science Major. Additionally, with the completion of the revision process, the insights gained from this work will be used to target, communicate, and attract more students into the new Plant Science Major at the University of Florida.

During 2015 – 2016, the faculty in the Agronomy, Entomology and Nematology, Environmental Horticulture, Plant Pathology, and Soil Science Departments worked collaboratively to develop specializations that comprise the proposed new Plant Science Major. A new curriculum that will provide academic and professional training to prepare four-year graduates for current and emerging jobs and advanced degree program opportunities was developed jointly by faculty in the collaborating department. Two faculty members from each collaborating department serve as representatives on the Plant Science Committee. These committee members represent the interest and views of the faculty in their respective department. They also served as the linkage to the faculties in each department where the curriculum development occurred for each and every specialization. During this year the faculties from the Entomology and Nematology and the Soil Science Departments officially voted to join the Plant Science Major collaboration.

Thereafter, the overall structure and character of the specializations was agreed to by the Plant Science Committee, including course content that effectively links two-year feeder school programs, as well as the first two years of UF undergraduate coursework to the major. The general framework for the third and fourth years of coursework was also cooperatively planned by the Plant Science Committee. The composition of core courses for the major was agreed to with input from faculty in all collaborating departments. Then the detailed curriculum for each specialization was developed by the faculties in each department having a subject matter link to each of the specializations. A few specializations were developed collaboratively by faculty in multiple departments. The overall character and content of all specializations was fully planned during the 2015 - 2016 academic year.

During the first semester of the 2016 – 2017 academic year the Plant Science Committee and faculties in all departments reviewed and refined the proposed new curriculum. Approval of the curriculum was obtained from the curriculum / academic programs committee in each department. Additionally, the entire faculties in each department also reviewed and voted on the specializations that are linked by subject matter to their department. At a joint meeting held for all collaborating department faculties, the overall proposed Plant Science Major Curriculum was reviewed and voted on by the participating faculty. The vote to move the proposed new Plant Science Major Curriculum forward to the CALS and University Curriculum Committees was a unanimous affirmative vote. A significant effort was also undertaken during this academic year to communicate about the proposed Plant Science curriculum changes to all impacted and affected departments and programs, and to resolve any significant issues. Letters from all these departments are attached and reflect a high level of cooperation, comfort and mutual support for the proposed changes.

This following is a summary of key overall proposed changes to the Plant Science Major which is reflected in the track changes that are attached and are proposed for inclusion in the next publication of the University Catalog.

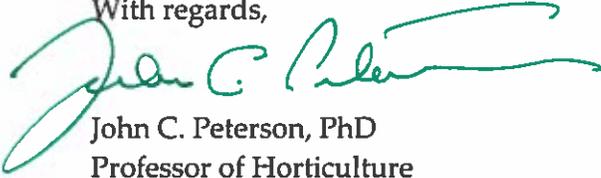
- The departments collaborating in the Plant Science Major are the Agronomy, Entomology and Nematology, Environmental Horticulture, Plant Pathology, and Soil Science Departments.
- The current major has eight specializations. Through a process of consolidation, revision, elimination and addition the new proposed Plant Science Major will also have eight specializations.
- The new specializations are:
 - General Plant Science
 - Greenhouse and Landscape Industries
 - Native Plant Conservation
 - Plant Breeding and Genetics

- Plant Health and Protection
 - Soil Management and Plant Productivity
 - Sustainable Crop Production
 - Turfgrass Science
- The Community Food Systems BA Specialization will be removed from the Plant Science Major and continued as a major in interdisciplinary studies under the management of a new program.
 - The Garden Design and Management BA Specialization will be removed from the Plant Science Major. This component of the program has been consolidated into the new Greenhouse and Landscape Industry Specialization. Students may now receive a BS in this aspect of the program.
 - The Soil Science department has joined the Plant Science Major collaboration and a new specialization, Soil Management and Plant Productivity has been created. This has added a new dimension of subject matter for students enrolling in the major and a pathway to important industry jobs and graduate studies opportunities.
 - The Entomology and Nematology Department has joined the Plant Science Major collaboration and in conjunction with the Plant Pathology Department has merged the Plant Health and Plant Protection Specializations into one new specialization under the Plant Science Major. This new specialization will serve as an excellent pathway into the Doctor of Plant Medicine Program and other professional opportunities.
 - The General Plant Science specialization was created as a track to provide an avenue for on-line and off campus training of students at REC centers, primarily in the aspects of Environmental Horticulture. It also is intended provide a more general plant science curriculum and a pathway leading to opportunities for graduate studies.
 - The Greenhouse and Landscape Industries specialization consolidates some current specializations and expands avenues of studies leading to a variety of professional job opportunities within the ornamental horticulture segments of the plant industries.
 - The Native Plant Conservation specialization combines the current Restoration Horticulture specialization and a portion of the current Crop Ecology specialization into one new specialization that will educate students for positons in a unique and expanding segment of the plant science industry and provide opportunities for continuing to graduate studies.
 - The Plant Breeding and Genetics specialization updates, improves and expands this specialization for students interested in this very important aspect of plant science.

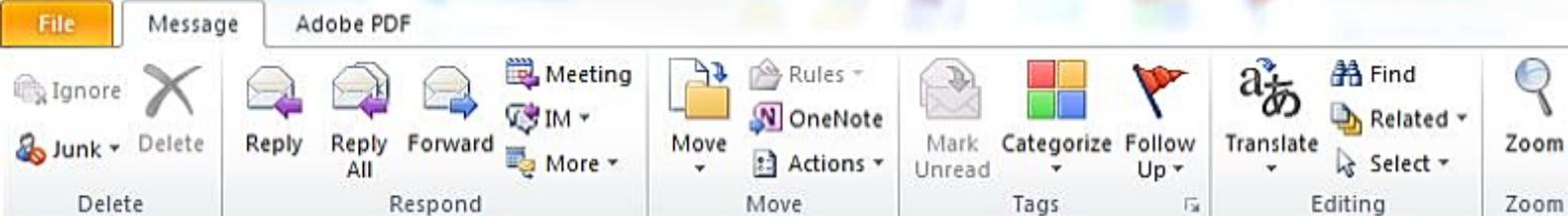
- The Sustainable Crop Production specialization better defines the scope and character of the curriculum for this important and contemporary aspect of agronomic crop production.
- The Turfgrass Science specialization has been segmented out to provide an important educational opportunity in this unique and reemerging aspect of the plant science industry. This specialization offering identifies UF as a center of excellence for this area of educational training, as there is considerable strength in this area at UF and a strong industry in this state to support the hiring of graduates.
- The proposed new Plant Science Major will have a core group of courses that is required of all students enrolled in the major. This enhances the academic rigors of the program and brings unity to the program and allows students in the major to change specializations with ease if they elect to do so. These core courses include: PLS 3004C Principles of Plant Science; PLP 3002C Fundamentals of Plant Pathology; SWS 3022C&L Introduction to Soils in the Environment; PLS 3223 Plant Propagation; AGR 4512 Physiology and Ecology of Crops or HOS 4304 Horticultural Physiology; PLS 4941 Professional Work Experience in Plant Science; and PLS 4950 Plant Science Capstone.
- Each Plant Science Major specializations require student to obtain the approval of their academic advisor for all the electives they select for their specialization. The assignment of academic advisors for each student is currently in place for this major and will continue in the future. Students will be linked to faculty and staff who can best advise them for the specialization that they are enrolled in within this major. Faculty and staff advisors in all collaborating departments interact and coordinate with the Plant Science Academic Program Coordinator and the Plant Science Major Director. The advisor meets with assigned students at least once each semester, guides the selection of electives, and approves the students' choice of elective courses in line with their academic and professional goals.
- The revisions of the Plant Science Major have provided an opportunity to expand and improve the interdisciplinary cooperation among the five participating departments. It also enhances the potential to recruit more students to UF for an educational program that will lead to significant and industry critical job opportunities within Florida, across the United States and around the world.
- Students enrolled in current Plant Science Major Specializations may continue in those tracks to graduation or they may shift to the new curriculum if they chose to do so, so long as it does not impact their progress to completion of their degree.

We thank the CALS Curriculum Committee and University Curriculum Committee for reviewing these proposed changes and for accepting the recommendation of the faculty in all five participating departments that these changes be approved.

With regards,

A handwritten signature in green ink, appearing to read "John C. Peterson", with a long horizontal flourish extending to the right.

John C. Peterson, PhD
Professor of Horticulture
Plant Science Major, Director



You forwarded this message on 12/6/2016 1:36 PM.

From: . CLAS-Biology Chair
To: Peterson, John C.
Cc: Davis, Ellen Christine
Subject: consult for Plant Sciences Revision

Sent: Tue 12/6/2016 1:17 PM

Dear John,

I want to thank you for your fruitful engagement with Dr. Christine Davis about the planned Plant Sciences major revision. She feels, and I concur, that the net effect on both our programs will be positive. We both appreciate the way that you have thoughtfully included many of our courses as required and/or elective courses. We are confident that we will not have any difficulty accommodating your students. Therefore, I am writing to let you know that I thank you for the opportunity to consult and that I am supportive of the proposed changes to the major.

Cheers,
Marta

Marta L. Wayne, Ph. D.
Professor and Chair
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College of Agricultural and Life Sciences
Horticultural Sciences Department

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December 14, 2016

Dear CALS Curriculum Committee,

I was asked by Dr. John Petersen to provide a letter stating the position of the Horticultural Sciences Department regarding the addition of the *Sustainable Crop Production* track to the Plant Sciences curriculum. My interest has always been a students-first approach to curriculum, exploiting the vast talents of the CALS faculty to provide a dense tapestry of varied course offerings and curriculum tracks. Such approaches are needed to optimize student education and training for future endeavors in plant biology. I was a member of the Plant Sciences Curriculum Committee at its inception. I can speak honestly to the current situation, and my sentiments generally reflect those of the Horticultural Sciences faculty.

Horticultural Sciences was the first department in the nation to provide an Organic Crop Production major. The program proved successful and of great student interest, and we saw parallel efforts erupt nationwide. This is a good thing, but troubling when a related track is proposed on our very own college as part of a newly-devised curriculum.

Approving this redundancy (and others) was an abject failure of the CALS Curriculum Committee. One of the committee's most critical functions is to arrest redundancy, foster greater student choice and develop an integrated and complementary curriculum to best serve students. Nonetheless, the committee approved the duplication based on interdepartmental politics and an administrative mandate.

Now the committee is tasked with further augmentation of this overlap by approving the *Sustainable Crop Production* track. Horticultural Sciences offers an *Organic Crop Production* track. Can you tell the difference? Will students know the difference? In familiar parlance the terms *organic* and *sustainable* are typically used interchangeably. Are these complementary and integrated, or is this a way to further duplicate a successful major?

There are ways to do this correctly, and the CALS Curriculum Committee can show leadership and be a catalyst in this change. I have reached out to Dr. Gilbert and others in Plant Sciences on several occasions to achieve this, but with no success. John Petersen and I have shared productive and forward-thinking discussions, but they end there. The Horticultural Sciences Faculty believes that content should be retooled to create **clearly distinguishable, non-redundant, complementary courses**. This approach maximizes faculty time, provides a wider

breadth of training for students, as well as a greater capacity to present course offerings throughout the year. **This should be our goal as a college and your goal as a committee** and we are always open to that discussion. Creating complementary courses and tracks that dovetail with our existing courses provides an incentive to join as part of the Plant Sciences major. Further duplicating efforts and draining students from an established major also creates unnecessary potential for bad feelings between friends.

However, based on historical precedent, we fully anticipate that the Sustainable Crop Production track will be approved by this CALS Curriculum Committee, and the redundancy will build to a new level. Students will remain unsure of differences and we'll again squander an opportunity to provide an integrated and unified product to students. At the end of the day this is about student numbers in a new major, certainly not fairness and respect for our precedent. We do not agree that a parallel major should be offered in two places at the same university. However, we do fully expect it to be approved, consistent with previous actions.

We understand that resistance is futile and will not further oppose the action. It was important for us to provide a durable public record of our response.

And as always, we do welcome any opportunity to discuss how to enhance the experience for students by creating non-redundant, complementary and integrated courses. We believe that CALS can better distribute faculty effort across disciplines to build a stronger curriculum that enhances student choice and improved preparation for tomorrow's careers.

Sincerely,



Kevin M. Folta
Professor and Chair