

URBAN PEST MANAGEMENT

This biological science includes the study of insects, mites, ticks, spiders, and nematodes. These creatures can have both helpful and harmful effects on our food, environment, and health. Entomology and Nematology students study ecology, medically significant arthropods, social insects, insect management, physiology, behavior, evolution, natural ecosystem cycles, and systematics.

About this Program

- **College:** Agricultural and Life Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/>)
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/ENY_BS/ENY_BS02/) | Preprofessional (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/ENY_BS/ENY_BS04/) | Urban Pest Management (p. 1)
- **Credits for Degree:** 120

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

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a variety of fields. Entomology and Nematology majors can enter medical, dental, or veterinary school; progress to graduate study in any of several biological sciences such as ecology, nematology, entomology, horticulture, or zoology; or move directly to a variety of careers in fields such as pest management, ecotourism, or biosecurity.

Website (<http://entomology.ifas.ufl.edu/>)

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Map (<http://campusmap.ufl.edu/#/index/0970>)

Curriculum

- Beekeeping Certificate
- Bioinformatics Minor UF Online
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

The Department of Entomology and Nematology offers the major. Faculty within the department cover areas in systematics, ecology, medically significant arthropods, social insects, insect management, physiology, behavior, evolution and natural ecosystem cycles. The department has a long tradition of sending students to medical, veterinary and dental school. Graduate school prospects are also high and employment options using entomology are versatile.

Urban Pest Management

This specialization is for entry to the pest control industry. Students receive instruction about arthropods, nematodes, plant diseases and weeds with reference to the pest problems in residential and commercial property. A business curriculum prepares students for management responsibilities. Students planning to attend graduate school should consult an advisor for appropriate math, chemistry and physics courses.

Except with undergraduate coordinator permission, students are expected to complete the following courses on campus; other ENY courses can be taken online:

Code	Title	Credits
ENY 3005	Principles of Entomology	2
ENY 3005L	Principles of Entomology Laboratory	1
ENY 4161	Insect Classification	3

ENY 4660	Medical and Veterinary Entomology	2
ENY 4660L	Medical and Veterinary Entomology Laboratory	1

Minimum grades of C are required for all core courses. Students must maintain a 2.0 cumulative GPA for specialization electives with no individual course grade less than C-.

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<http://www.flvc.org/cpp/displayRecord.jsp?cip=260702&track=01>) may be used for transfer students.

Semester 1

- Complete 2 of 5 critical-tracking courses, excluding labs: BSC 2010/BSC 2010L or BOT 2010C, BSC 2011/BSC 2011L, CHM 2045/CHM 2045L, MAC 1147, PHY 2020 or PHY 2004
- 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 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
- 2.0 upper division GPA required

Semester 6

- Complete 2 major elective courses, excluding labs: ALS 4161, ALS 4162, ALS 4163, ENY 4660, ENY 4573, ENY 4210, ENY 3510C, ENY 3225C, IPM 3022, PMA 4570C
- 2.0 UF GPA required
- 2.0 upper division GPA required

Semester 7

- Complete 1 additional major elective course, excluding labs
- 2.0 UF GPA required
- 2.0 upper division GPA required

Semester 8

- Complete a minimum of 3 credits of ENY 4911 or ENY 4230
- 2.0 UF GPA required
- 2.0 upper division GPA required

Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
Select one:		3-4
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking ; Gen Ed Biological Sciences)	
BOT 2010C	Introductory Botany (Critical Tracking)	
Select one:		3
ENC 1101	Expository and Argumentative Writing	
ENC 2210	Technical Writing	
ENC 3254	Professional Writing in the Discipline (State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement)	
MAC 1147	Precalculus Algebra and Trigonometry (Critical Tracking ; State Core Gen Ed Mathematics)	4
Elective		1
	Credits	14-15
Semester Two		
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Critical Tracking ; Gen Ed Biological Sciences)	4
CHM 1025	Introduction to Chemistry (if needed; or select an elective)	2
Gen Ed Composition; Writing Requirement		3
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
	Credits	12
Semester Three		
Quest 2 (Gen Ed International or Diversity)		3
AEC 3030C	Effective Oral Communication	3
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking ; State Core Gen Ed Physical Sciences)	4
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
	Credits	13
Semester Four		
Select one:		3-4
AEB 2014	Economic Issues, Food and You	
ECO 2023	Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)	
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	3
ENY 2890	Using Insect Research to Understand the Nature of Scientific Engagement	3
Select one:		3
PHY 2004	Applied Physics 1 (Critical Tracking)	
PHY 2020	Introduction to Principles of Physics (Critical Tracking ; Gen Ed Physical Sciences)	
PHY 2004L	Laboratory for Applied Physics 1 (or select an elective) ¹	1
	Credits	13-14
Summer After Semester Four		
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences; must be taken on campus)	3
ENY 3222C	Biology and Identification of Urban Pests	3

Approved Business elective		3
Credits		9
Semester Five		
ENY 4161	Insect Classification (must be taken on campus)	3
Select one:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
PLP 3002C	Fundamentals of Plant Pathology	
ORH 3513C	Environmental Plant Identification and Use	3
STA 2023	Introduction to Statistics 1	3
Credits		13
Semester Six		
BCN 1210	Construction Materials	3
Select one:		3-5
FOS 4222 & 4222L	Food Microbiology and Food Microbiology Laboratory	
SWS 3022	Introduction to Soils in the Environment	
IPM 3022	Fundamentals of Pest Management (Critical Tracking)	3
Approved elective (Critical Tracking ; Gen Ed International or Diversity)		3
Credits		12-14
Summer After Semester Six		
ENY 3225C	Principles of Urban Pest Management	3
ENY 4230	Urban Pesticide Application	3
Approved Business elective		3
Credits		9
Semester Seven		
ENY 4660 & 4660L	Medical and Veterinary Entomology and Medical and Veterinary Entomology Laboratory (Critical Tracking ; must be taken on campus)	3
NEM 3002	Principles of Nematology	3
PLS 4601C	Principles of Weed Science	3
Approved Business elective		3
Credits		12
Semester Eight		
BCN 3223C	Soils and Concrete	3
EVS 3000	Environmental Science 1	3
ENY 4453	Behavioral Ecology and Systematics (Critical Tracking)	3
Approved Business elective		4
Credits		13
Total Credits		120

¹ Select an elective if PHY 2020 was taken.

Approved Electives

Business Electives | 13 Credits Minimum

Code	Title	Credits
AEB 3122	Financial Planning for Agribusiness	3
AEB 3133	Principles of Agribusiness Management	3
AEB 3144	Introduction to Agricultural Finance	3
AEB 4085	Agricultural Risk Management and the Law	3
AEB 4123	Agricultural and Natural Resource Law	3
AEB 4424	Human Resources Management in Agribusiness	3
BUL 4310	The Legal Environment of Business	4
MAN 3025	Principles of Management	4
MAR 3023	Principles of Marketing	4
PUR 3000	Principles of Public Relations	3

Other Electives

Code	Title	Credits
FOS 4202	Food Safety and Sanitation	2
ORH 3222C	Turfgrass Culture	4
ORH 4236C	Ornamental Landscape Management	3
PLP 3103C	Control of Plant Diseases	3

Academic Learning Compact

The entomology and nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology and ecology.

Before Graduating Students Must

- Pass the entomology and nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

Content

1. Identify insects and describe and explain insect morphology, physiology and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3
AEC 3030C			A
AEC 3033C			A
ENY 3005	I, A	I, A	I
ENY 3005L	A	A	
ENY 4161	R, A		R, A

Assessment Types

- Assignments
- Exams
- Course grades
- Research collection