ENTOMOLOGY AND NEMATOLOGY | BASIC SCIENCE

Entomology and nematology are biological sciences dealing with insects, mites, ticks, spiders, and nematodes.

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Credits for Degree:** 120
- **Specializations:** Basic Science | Biosecurity | Ecotourism | Plant Protection | Preprofessional | Urban Pest Management

**Additional Information**
- **Related Entomology and Nematology Programs**

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

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:
  - BSC 2010/BSC 2010L or BOT 2010C, BSC 2011/BSC 2011L, CHM 2045/CHM 2045L, CHM 2046/CHM 2046L, MAC 2233
- 2.5 GPA on math and science courses
- 2.0 UF GPA required

**Semester Two**

- Complete 1 additional critical-tracking course, excluding labs
- 2.5 GPA on math and science courses
- 2.0 UF GPA required

**Semester Three**

- Complete 1 additional critical-tracking course, excluding labs
- 2.5 GPA on math and science courses
- 2.0 UF GPA required

**Semester Four**

- Complete 1 additional critical-tracking course, excluding labs
- 2.5 GPA on math and science courses
- 2.0 UF GPA required

**Semester Five**

- Complete all critical-tracking courses, including labs
- 2.5 GPA on math and science courses
- 2.0 UF GPA required

All entomology majors in the basic science track must take three credits of ENY 4905. See advisor for details.

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

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<tr>
<td>BSC 2010 &amp; 2010L</td>
<td>Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking; Gen Ed Biological Sciences)</td>
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<td>BOT 2010C</td>
<td>Introductory Botany (Critical Tracking; State Gen Ed Biological Sciences)</td>
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<tr>
<td>ENC 1101</td>
<td>Expository and Argumentative Writing</td>
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<td>ENC 2210</td>
<td>Technical Writing</td>
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<td>ENC 3254</td>
<td>Professional Writing in the Discipline (State Core Gen Ed Composition; Writing Requirement)</td>
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<td>IUF 1000</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
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<td>MAC 2233</td>
<td>Survey of Calculus 1 (Critical Tracking; State Core Gen Ed Mathematics)</td>
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<td>Credits</td>
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<td>Semester Two</td>
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<td>AEB 2014</td>
<td>Economic Issues, Food and You</td>
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<td>AEB 3103</td>
<td>Principles of Food and Resource Economics (Gen Ed Social and Behavioral Sciences)</td>
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<td>Principles of Microeconomics</td>
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<td>Gen Ed Social and Behavioral Sciences</td>
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<td>Credits</td>
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<td>Semester Three</td>
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<td>AEC 3033C</td>
<td>Research and Business Writing in Agricultural and Life Sciences</td>
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<td>CHM 2045 &amp; 2045L</td>
<td>General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking; State Core Gen Ed Biological and Physical Sciences)</td>
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<td>PHY 2004 &amp; 2004L</td>
<td>Applied Physics 1 and Laboratory for Applied Physics 1 (Gen Ed Physical Sciences)</td>
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<td>Semester Four</td>
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<td>AEC 3030C</td>
<td>Effective Oral Communication</td>
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Entomology and Nematology | Basic Science

CHM 2046 General Chemistry 2 and General Chemistry 2 Laboratory (Critical Tracking; Gen Ed Physical Sciences) 4
PHY 2005 Applied Physics 2 and Laboratory for Applied Physics 2 (Gen Ed Physical Sciences) 4
Gen Ed Composition 3

Semester Five
Credits 14

AGR 3303 Genetics 3
ENY 3005 Principles of Entomology & 3005L and Principles of Entomology Laboratory (Gen Ed Biological Sciences; both courses must be taken on campus) 3
Approved electives 1 6

Semester Six
Credits 16

Select one:
ALS 3153 Agricultural Ecology 3-4
PCB 3601C Plant Ecology
PCB 4043C General Ecology
ENY 4905 Problems in Entomology 3

Select one:
MCB 3020 Basic Biology of Microorganisms & 3020L and Laboratory for Basic Biology of Microorganisms (Gen Ed Biological Sciences) 4
MCB 2000 Microbiology & 2000L and Microbiology Laboratory (Gen Ed Biological Sciences) 4
Approved electives 1 14-15

Semester Seven
Credits 15

ENY 4161 Insect Classification (must be taken on campus) 3
ENY 4660 Medical and Veterinary Entomology & 4660L and Medical and Veterinary Entomology Laboratory (must be taken on campus) 3
NEM 3002 Principles of Nematology 3
Approved electives 1 6

Semester Eight
Credits 15

Select one:
ENY 4453 Behavioral Ecology and Systematics 3-4
PCB 4043C General Ecology
ALS 3153 Agricultural Ecology
Select one:
ENY 4455C Social Insects
ENY 4573 Beekeeping
ZOO 4205C Invertebrate Biodiversity
Approved electives 9
Approved electives 15-17

Total Credits 120

1 Pre-vet majors need appropriate animal science requirements as electives.

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

<table>
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<tr>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
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Assessment Types
• Assignments
• Exams
• Course grades
• Research collection