

ENTOMOLOGY AND NEMATOTOLOGY

Program Information

The Entomology and Nematology department offers research-based M.S. (thesis) and PhD degrees in entomology and in nematology. Our large faculty in Gainesville and at Research and Education Centers around the state allow for study in many important areas. Insect and nematode pests cause significant losses to agricultural and horticultural crops and livestock, and are important vectors of pathogens that cause diseases in plants, livestock and humans. Urban pests can affect quality of life and cause significant loss to property. However, these organisms also provide important services through decomposition, pollination of fruits and vegetables, and as natural enemies of other pest species. Our department is uniquely positioned to address these fundamental and applied biological questions because of our strong interdisciplinary research and education programs, from molecular to whole organism and population ecology studies.

In addition to our research based degree programs, the M.S. degree can be taken in a non-thesis format, in Gainesville or entirely online, with a specialization in either entomology or pest management (with foci on pests of medical, urban or landscape importance). Online M.S. degrees are designed to accommodate place-bound students interested in biological science with emphasis on insects and other arthropods, including extension faculty and other educators; state and federal employees in agricultural, environmental and regulatory positions; consultants; pest control industry personnel; and others who want to further their education.

Certificates, comprising 15 credit hours of specific coursework, are available online or to residential students with concentrations in urban pest management, landscape pest management or medical entomology. These certificates document specialization and proficiency in sub-disciplines within entomology for enrolled graduate students and provide evidence of expertise for non-degree seeking students.

Students entering graduate programs in entomology and nematology should have a strong science background, including biology, chemistry, and algebra. Physics and statistics are recommended. Admissions criteria can be found on the Graduate School's Admission (<http://gradcatalog.ufl.edu/graduate/admission/>) page.

Degrees Offered

Degrees Offered with a Major in Entomology and Nematology

- Doctor of Philosophy
 - without a concentration
 - concentration in Global Systems Agroecology
- Master of Science
 - without a concentration
 - concentration in Agroecology

Requirements for these degrees are given in the Graduate Degrees (<http://gradcatalog.ufl.edu/graduate/degrees/>) section of this catalog.

Courses

Entomology and Nematology Departmental Courses

Code	Title	Credits
ALS 5156	Agricultural Ecology Principles and Applications	3
ALS 6046	Grant Writing	2
ALS 6166	Exotic Species and Biosecurity Issues	3
ALS 6502C	Linear Models in Agriculture and Natural Resources	3
ALS 6935	Topics in Biological Invasions	3
ENY 5006	Graduate Survey of Entomology	3
ENY 5006L	Graduate Survey of Entomology Laboratory	1
ENY 5160C	Survey of Science with Insects	3
ENY 5212	Insects and Wildlife	3
ENY 5223C	Biology and Identification of Urban Pests	3
ENY 5226C	Principles of Urban Pest Management	3
ENY 5241	Biological Control	4
ENY 5332	Graduate Survey of Urban Vertebrate Pest Management	2
ENY 5405	Insects as Vectors of Plant Pathogens	3
ENY 5516	Turf and Ornamental Entomology	3
ENY 5566	Tropical Entomology	3
ENY 5567	Tropical Entomology Field Laboratory	2
ENY 5611	Immature Insects	4
ENY 5820	Insect Molecular Genetics	3
ENY 6166	Insect Classification	3
ENY 6203L	Insect Ecology Laboratory	1
ENY 6203	Insect Ecology	3
ENY 6206	Ecology of Vector-Borne Disease	3
ENY 6207	Ecology and Conservation of Pollinators	3
ENY 6248	Termite Biology and Control	2
ENY 6401L	Insect Physiology Laboratory	1
ENY 6401	Insect Physiology	3
ENY 6406	Molecular Biology of Insects and Nematodes	3
ENY 6454	Behavioral Ecology and Systematics of Insects	3
ENY 6456C	Social Insects	3
ENY 6572	Apiculture I	3
ENY 6575	Apiculture II	3
ENY 6576	Honey Bee Biology	3
ENY 6591C	Advanced Mosquito Identification	3
ENY 6593	Advanced Mosquito Biology	3
ENY 6651C	Insect Toxicology	3
ENY 6665	Advanced Medical and Veterinary Entomology I	3
ENY 6665L	Advanced Medical and Veterinary Entomology Laboratory	1
ENY 6706	Forensic Entomology	3
ENY 6821	Insect Microbiology	3
ENY 6905	Problems in Entomology	1-4
ENY 6910	Supervised Research	1-5
ENY 6931	Entomology Seminar	1
ENY 6932	Special Topics in Entomology	1-2
ENY 6934	Selected Studies in Entomology	1-4
ENY 6940	Supervised Teaching	1-5
ENY 6942	Insect Diagnostics	1-3
ENY 6943	Entomology Internship	1-3
ENY 6944	Entomology Extension Internship	1-3

ENY 6945	Practical Work Experience in Entomology and Nematology	1-3
ENY 6971	Research for Master's Thesis	1-15
ENY 7979	Advanced Research	1-12
ENY 7980	Research for Doctoral Dissertation	1-15
IPM 6021	Insect Pest and Vector Managem	3
NEM 5004C	Graduate Survey of Nematology	3
NEM 5707C	Plant Nematology	3
NEM 6101	Nematode Morphology and Anatomy	2
NEM 6101L	Nematode Morphology and Anatomy Lab	2
NEM 6102	Nematode Systematics and Molecular Phylogeny	2
NEM 6102L	Nematode Systematics and Molecular Phylogeny Laboratory	2
NEM 6103	Insect Parasitic Nematodes	2
NEM 6103L	Entomopathogenic Nematodes Laboratory	1
NEM 6201	Nematode Ecology	3
NEM 6708	Field Plant Nematology	2
NEM 6905	Problems in Nematology	1-4
NEM 6931	Nematology Seminar	1
NEM 6932	Special Topics in Nematology	1-4
NEM 6934	Selected Studies in Nematology	1-4
NEM 6940	Supervised Teaching	1-5
NEM 6942	Nematode Diagnostics	2
NEM 6943	Nematode Internship	1-3
NEM 6971	Research for Master's Thesis	1-15
NEM 7979	Advanced Research	1-12
NEM 7980	Research for Doctoral Dissertation	1-15
PMA 5205	Citrus Pest Management	3
PMA 6228	Field Techniques in Integrated Pest Management	2

Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans

SLO 2 Knowledge

Discuss appropriate research methodology, including aspects of statistical design and analysis, in the execution of arthropod research

SLO 3 Skills

Effectively communicate science orally and in written form to an audience of scientific peers

SLO 4 Skills

Effectively communicate science orally and in written form to a non-specialized audience through educational activities

SLO 5 Skills

Apply critical thinking and inquiry/analysis methodologies to solve problems and generate new knowledge

SLO 6 Professional Behavior

Interact with professional peers with honesty, ethical behavior, cultural sensitivity, and teamwork.

entomology & Nematology (MS)

SLO 1 Knowledge

Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans

SLO 2 Knowledge

Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans

SLO 3 Knowledge

Discuss appropriate research methodology, including statistical aspects of experimental design and analysis, in the execution of arthropod research

SLO 4 Knowledge

Discuss appropriate research methodology, including statistical aspects of experimental design and analysis, in the execution of arthropod research

SLO 5 Skills

Effectively communicate science orally and in written form

SLO 6 Skills

Effectively communicate science orally and in written form

SLO 7 Skills

Apply critical thinking and inquiry/analysis methodologies to solve problems and generate new knowledge

SLO 8 Professional Behavior

Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork and effective communication

SLO 9 Professional Behavior

Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork and effective communication

College of Agricultural and Life Sciences Courses

Code	Title	Credits
ALS 5156	Agricultural Ecology Principles and Applications	3
ALS 5905	Individual Study	1-4
ALS 5932	Special Topics	1-4
ALS 6046	Grant Writing	2
ALS 6166	Exotic Species and Biosecurity Issues	3
ALS 6921	Colloquium on Plant Pests of Regulatory Significance	1
ALS 6925	Integrated Plant Medicine	4
ALS 6931	Plant Medicine Program Seminar	1
ALS 6935	Topics in Biological Invasions	3
ALS 6942	Principles of Plant Pest Risk Assessment and Management	3
ALS 6943	Internship in Plant Pest Risk Assessment and Management	1-10
ANS 6936	Graduate Seminar in Animal Molecular and Cell Biology	1-2
BCH 5045	Graduate Survey of Biochemistry	4
STA 6093	Introduction to Applied Statistics for Agricultural and Life Sciences	3
STA 6329	Matrix Algebra and Statistical Computing	3

Student Learning Outcomes

Entomology & Nematology (PHD)

SLO 1 Knowledge