ENTOMOLOGY (ENTM)

Graduate Degree Program
College: Computer, Mathematical, and Natural Sciences

Abstract

The Department of Entomology offers Doctor of Philosophy and Master of Science degrees. Graduate students may conduct research in a range of both basic and applied topics, including insect ecology and behavior; physiology, morphology, evolution and biosystematics; insect pathology, molecular biology and genetics; aquatic entomology; pollinator biology and apiculture; and integrated pest management.

Employment opportunities for graduates exist in industry; academia and extension; federal, state, and local governments; private and non-profit arenas; and in international and national spheres.

Financial Assistance

Graduate students are supported primarily in two ways. Many students are supported by extramural funding sources, usually obtained by the student's faculty advisor or by the student for research on a specific topic. The second type of support is provided by the department from internal funds via University and departmental fellowships and teaching and research assistantships. Teaching and research assistantships are available on a competitive basis. Teaching assistants usually instruct undergraduate laboratory and recitation classes and receive in return a tuition waiver of ten credits each semester. Those students whose records indicate superior academic achievement and promise may also be competitive for University and departmental fellowships. Several part-time employment opportunities are also available in governmental and private research laboratories in the area. Regardless of the initial source of funding, the department makes a financial commitment to each graduate student. In the case of master's students, support is provided for the first three years of the program only. In the case of doctoral students, five years of support is provided but must be used during the first six years of the student's program. Support is usually for the full 12 months per year.

Contact

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Courses: BSCI (https://umd-curr.courseleaf.com/graduate/courses/bsci/) ENTM (https://umd-curr.courseleaf.com/graduate/courses/entm/)

Relationships: Biological Sciences (BISI) (https://academiccatalog.umd.edu/graduate/programs/biological-sciences-bisi/); Marine, Estuarine, and Environmental Sciences (MEES) (https://academiccatalog.umd.edu/graduate/programs/marine-estuarine-environmental-sciences-mees/)

ADMISSIONS

General Requirements

- Statement of Purpose
- Transcript(s)
- TOEFL/IELTS/PTE (international graduate students (https://gradschool.umd.edu/admissions/english-language-proficiency-requirements/))

Program-Specific Requirements

- Letters of Recommendation (3)
- CV/Resume
- Writing Samples (optional, up to 2)
- Description of Research/Work Experience (optional)

Students applying for graduate work in entomology are expected to have a strong background in the biological or agricultural sciences, chemistry, genetics, and mathematics. An undergraduate degree in entomology is not required, but a strong basic preparation is preferred for admission to the program.

Admission is granted on the basis of the following criteria by the Graduate Affairs Committee: Analysis of transcripts, including course selection and GPA; letters of recommendation; statement of purpose; and acceptance by a graduate faculty advisor. International applicants must also submit proof of English proficiency (TOEFL, iBT or IELTS scores). Acceptance by an advisor is absolutely required; thus, it helps to make contact with faculty when applying.

Upon admission to the MS or PhD program, the student's study committee suggests a program of coursework and approves a detailed research proposal.

Application Deadlines

Type of Applicant	Fall Deadline
Domestic Applicants	
US Citizens and Permanent Residents	December 3, 2025
International Applicants	
F (student) or J (exchange visitor) visas; A, E, G, H, I and L visas and immigrants	December 3, 2025

RESOURCES AND LINKS:

Program Website: http://www.entm.umd.edu
Program Admissions Website: https://entomology.umd.edu/admissions.html
Application Process: gradschool.umd.edu/admissions/application-process/step-step-guide-applying (https://gradschool.umd.edu/admissions/application-process/step-step-guide-applying/)

REQUIREMENTS

- Entomology, Doctor of Philosophy (Ph.D.) (https://academiccatalog.umd.edu/graduate/programs/entomology-entm/entomology-phd/)
- Entomology, Master of Science (M.S.) (https://academiccatalog.umd.edu/graduate/programs/entomology-entm/entomology-ms/)

FACILITIES AND SPECIAL RESOURCES

Overview

The department is housed in a modern research facility on the College Park campus, where state-of-the-art offices, laboratories, environmental growth chambers, multimedia classrooms, and lecture halls provide an excellent environment for research and teaching. Students have individual workstations and access to sophisticated computer graphic facilities. The department also shares extensive technical expertise and scientific equipment with other departments on campus. The University's strategic location in the Washington, DC area provides many opportunities for students to conduct research and gain hands-on experience in federal facilities, such as the Smithsonian Institution, USDA-ARS Beltsville Agricultural Research Center, Walter Reed Army Institute of Research, NIH, and more. Vast resources are available in the University's library system and nearby federal libraries. The USDA's National Agriculture Library at Beltsville is only four miles from campus, and the Library of Congress is in nearby Washington, DC. Besides the main campus, the Maryland Agriculture Experiment Station has Research & Education Centers in the state where field and laboratory work is carried out on urban and agricultural insects. Land use and technical services at these centers are available to faculty and students.

Institutional Partners

The University of Maryland is a large Research University located just outside of Washington, DC. Our unique location enables us to offer research opportunities with neighboring universities, research institutes, and state and federal laboratories, including:

- USDA Beltsville Agricultural Research Center (https://www.ars.usda.gov/northeast-area/beltsville-md-barc/beltsville-agricultural-research-center/)
- Smithsonian National Museum of Natural History (https://naturalhistory.si.edu/)
- Smithsonian Conservation Biology Institute (https://nationalzoo.si.edu/center-for-conservation-genomics/)
- NASA Applied Sciences Program DEVELOP (https://develop.larc.nasa.gov/about.php)
- National Institutes of Health (https://www.nih.gov/)
- Walter Reed Army Institute of Research (https://www.wrair.army.mil/)
- United States Department of Agriculture National Institute of Food and Agriculture (https://nifa.usda.gov/)
- USGS Patuxent Wildlife Research Center (https://www.usgs.gov/centers/pwrc/)
- Environmental Protection Agency (https://www.epa.gov/)
- National Park Service (https://www.nps.gov/)

Campus Resources

The Plant Sciences Building is adjacent to the Biology-Psychology, Bioscience Research, and Microbiology Buildings, which facilitates interaction between multiple departments – Entomology, Plant Sciences, Biology, Cell Biology & Molecular Genetics, Neuroscience & Cognitive Science, and Microbiology – in a highly collaborative environment.

Research Farms & Greenhouse

The department is affiliated with both the College of Computer, Mathematics & Natural Sciences (https://cmns.umd.edu/) (CMNS) and Agriculture & Natural Resources (https://agnr.umd.edu/) (AGNR). Our close ties to AGNR allow faculty and students to utilize the Maryland Agricultural Experiment Station, which maintains Research & Education Centers at nine sites across the state where field and laboratory work is carried out on urban and agricultural insects.

At each research farm, faculty and students have access to plot space and experienced farm crews that can help maintain research/training plots. Each farm is equipped with tractors, planters, sprayers and irrigation equipment as well as crop management and harvest equipment to carry out research. Each facility is also equipped with wagons for transporting stakeholders on farm tours.

Faculty and students also have access to a state-of-the-art greenhouse (https://agnr.umd.edu/research/research-and-education-centers-locations/research-greenhouse-complex/) on campus. This resource is a 2-acre site with 45,000 square feet in greenhouse space and an outdoor nursery area.

Insect Rearing & Animal Housing

Insect rearing facilities include Percival incubators within laboratories and walk-in growth chambers in the department, all of which have temperature, light and humidity controls. A fly food facility (housed on the 5th floor of the Plant Sciences Building) is shared by five fly groups on campus, providing fly food to each once per week at minimal cost.

The Animal & Avian Sciences Building provides housing for the animal subjects (https://ansc.umd.edu/research/research-facilities/) involved in research and teaching programs at UMD. The facility can accommodate mammalian, reptilian, avian, and aquatic animal subjects. It contains modern, climate controlled, and restricted access space for animal housing, as well as ancillary rooms used to perform surgeries, conduct research, mix feed, and wash cages. This facility is located within walking distance of the Plant Sciences Building.

High Performance Computing

Faculty and students at UMD are provided access to Deepthought2, MARCC/Bluecrab, and Juggernaut high-performance computing clusters (http://hpcc.umd.edu/) through the Division of Information Technology (DIT). A variety of open-source software packages relevant to biological research are available, maintained, and updated on these clusters by DIT.

Core Facilities

The College of Computer, Mathematics, and Natural Sciences and the University maintain a large number of Core Facilities (http://biosciencecores.umd.edu/), all of which are available to faculty and students.

- Imaging Core (http://biosciencecores.umd.edu/imaging.html)
- Genomics Core (http://biosciencecores.umd.edu/genomics.html)
- Proteomics Core (http://biosciencecores.umd.edu/proteomics.html)
- Flow Cytometry Core (http://biosciencecores.umd.edu/flow-cytometry.html)