

ENTOMOLOGY

Degree Requirements

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

The Master of Science degree in Entomology is an intermediate degree leading toward the development of special knowledge in entomology. It provides training for prospective doctoral candidates. A minimum of 30 credits (400 and 500 level) is required, with at least 20 credits earned in residence. At least 18 credits in the 500 and 600 series must be included in the program. A minimum of 12 credits in coursework (400 and 500) must be completed in the major program.

| Code | Title | Credits |
|--|--|-----------|
| Required Courses | | |
| ENT 432 | Insect Biodiversity and Evolution | 4 |
| ENT 518 | Insect Natural History | 2 |
| ENT 522 | Critical Thinking and Professional Development in Entomology | 6 |
| ENT 530 | Seminar in Insect Science | 2 |
| 3 credits of 400- to 500-level ENT courses | | 3 |
| 3 credits of statistics (i.e., STAT 501, STAT 502, STAT 541, AG 400, or equivalent) | | 3 |
| ENT 590 | Colloquium | 1 |
| Electives | | |
| Additional courses may be selected by the student in consultation with his/her graduate committee. | | 3 |
| Culminating Experience | | |
| ENT 600 | Thesis Research | 6 |
| Total Credits | | 30 |

Each master's student is expected to serve as a teaching assistant for 3 credits (ENT 602); however, these 3 credits cannot be counted towards the minimum credits required for the degree.

Each student must present the results of thesis research at a departmental seminar, and the student may register for 1 credit of ENT 590 that semester. A thesis equivalent to 6 credits (ENT 600) is required. A final oral examination covering the general field of entomology, with emphasis in the student's area of specialization, is required by the department. This is to be administered by the student's committee. A favorable vote of a two-thirds majority is necessary for passing.

Committees for master's degree candidates should be formed during the first semester, and are suggested jointly by the student and adviser, with approval by the Department Head. Masters committees have a minimum of three members. One of these should be from another degree program, particularly if the student plans to minor in that area. Adjunct faculty members cannot constitute a majority of the committee. The student and committee shall meet early in the process to plan the student's program and approve a thesis project. Refer to the Graduate School's Thesis and Dissertation Guide (<http://gradschool.psu.edu/current-students/etd/thesisdissertationguidepdf/>).

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

The degree of Doctor of Philosophy signifies high scholastic achievement and demonstrated capability in independent research. Although there is no formal credit requirement at the Ph.D. level, five academic years of full time graduate work beyond the bachelor's degree are normally required. Some of the work may be completed off campus or on a part-time basis, but between admission to the Ph.D. program and completion of the Ph.D. program, the student must spend two academic sessions in residence within a twelve-month period. The program requires all students to take:

| Code | Title | Credits |
|--|--|---------|
| Required Courses | | |
| ENT 432 | Insect Biodiversity and Evolution | 4 |
| ENT 518 | Insect Natural History | 2 |
| ENT 522 | Critical Thinking and Professional Development in Entomology | 6 |
| ENT 530 | Seminar in Insect Science | 4 |
| 3 credits of 400- or 500-level ENT courses | | 3 |

Other course requirements are dependent on the student's program of study. Each Ph.D. student is expected to serve as a teaching assistant for 6 credits (ENT 602). The results of the dissertation research must be presented at a departmental seminar. In addition, students must take and pass a comprehensive and final oral examination. Students commencing a doctoral program may have a provisional committee appointed as soon as the adviser is selected. A favorable vote by two-thirds of the qualifying examination committee members is necessary to pass the qualifying examination.

The official Ph.D. committee is approved by the Department Head and is appointed by the Dean of the Graduate School through the office of Graduate Enrollment Services after the student has passed the qualifying exam. Ph.D. committees for students in the Entomology program include at least three members from the department, at least one member from a related field outside Entomology, and a total of no fewer than four members; five members are recommended. Typically, committee members are chosen in consultation with the adviser. If the student has a formal minor, a representative of the minor field must be on the committee.

The student and committee should meet early in the degree process to plan the student's Ph.D. program and approve a dissertation project. A student may change adviser or committee members without prejudice. The Ph.D. committee guides and monitors the student's progress, administers the comprehensive and final oral examinations, and evaluates the dissertation. Students are not formally admitted to doctoral candidacy until they have passed the comprehensive examination.

A student in the Doctor of Philosophy degree program is required to demonstrate high-level competence in the use of the English language, including reading, writing, and speaking, as part of the language and communication requirements for the Ph.D. Entomology assesses and works to improve competence of both domestic and international students. Assessments to evaluate competency prior to the qualifying exam include pieces of original writing required as part of ENT 522. Oral communication competency is evaluated during the qualifying examination. Students needing assistance are directed to appropriate remedial activities. International students should note that passage of

the minimal TOEFL or IELTS requirement does not demonstrate the level of competence expected of a Ph.D. from Penn State.

There is no foreign language requirement for the Ph.D. degree. However, depending on the nature of the dissertation research and with the advice and consent of the Ph.D. committee, competency in a foreign language may be required as a part of the doctoral studies of certain students.