

Doctoral Qualifying Examination

3-14-2025

Purpose

Every student who wishes to pursue a PhD in Entomology must take a qualifying examination administered by the Graduate Faculty in Entomology (Graduate School Policy GCAC-604). The purpose of this exam is to:

1. Assess the student's core knowledge of entomology, biology, and fundamental concepts in life sciences
2. Assess early in the student's program whether the student is capable of conducting doctoral-level research based on evidence of critical thinking and other skills that the Graduate Faculty of the program view as necessary to a successful researcher
3. Assess student's communication skills and English proficiency (Graduate School Policy GCAC-605)

Timing and Eligibility

The graduate school requires that the examination be taken within three semesters (excluding summer sessions) of entry into the doctoral program. To be eligible for this exam a student must:

1. Have a GPA of 3.0 or higher for coursework done at the University and may not have deferred or missing grades at the time the qualifying examination is given
2. Be in good academic standing and must be registered as a full-time or part-time graduate degree student for the semester in which the qualifying examination is taken
3. Have earned at least 18 credits in graduate courses beyond the baccalaureate
4. Have completed the core Entomology courses

Format

The exam is administered by the Qualifying Exam Committee, comprised of graduate faculty, who will designate a period of time each semester for the exam. Best practices state that the student's Dissertation Adviser should not be a part of the Qualifying Examination Committee. If the student's advisor is on the Qualifying Exam Committee a substitute must be chosen by the Committee. Students intending to take the exam must contact [Susan Bass](#) at the beginning of the semester. The exam consists of two major components:

Qualifying exam for the Department of Entomology, as of Spring 2025

PhD students should be able to do more than recall, define and understand by going beyond rote learning. They should be able to solve problems and use their knowledge and critical thinking skills to synthesize, analyze and integrate information, generate hypotheses, and design experiments to test those hypotheses in a creative and logical way. As such, we will test these skills with our qualifying exam to ensure that a student is prepared to advance to candidacy. Because entomology is highly multi-disciplinary, multiple topics below (1-4) may be interwoven into a given question to reflect the integrated nature of entomological research and thinking processes.

Written Exam- The written exam will mostly include questions with entomological scenarios to make sense of real or imagined data, including figure(s) as appropriate, and will often include experimental design elements. These will usually be multipart, analysis/synthesis questions that require integrating information across the 4 core topics:

1. Structure and function
2. Taxonomy/systematics and evolution
3. General biology, ecology, behavior, and IPM
4. Basic statistics and experimental design

For example, questions presented as problem sets could cover plant/insect coevolution, or physiological aspects of pesticides such as resistance and/or detoxification, which could incorporate evolution, behavior, ecology and basic statistics.

The format of the written exam will be closed-book, meaning that no notebooks, internet, or AI tools will be allowed (starting Fall 2024). Students will receive six questions and must choose four to demonstrate their knowledge, synthesis, and analytical abilities.

If a student fails the exam, they can retake it the following semester. If the student fails a second time and obtains an average score between “fair” and “good” on their first two attempts, they may petition the Qualifying Exam Committee to request an oral exam, which must be approved by two-thirds of the faculty on the committee and the Department Head.

Students will be allotted 6 hours to complete the written exam in a quiet room with access to a laptop computer for writing. It is our expectation that most students will not require the full allotted time. Students who are registered with Disability Services and are allowed extra time on exams in their courses must have appropriate accommodation approved prior to the exam.

Scoring the exam. Each exam question will be scored by three faculty, including members of the Qualifying Exam Committee and outside faculty members that contributed to the exam questions. Exams will be submitted to the Chair of the Qualification Exam Committee anonymously by using the student’s PSU ID number on the exam. The exam will be evaluated qualitatively by using a scale of poor, fair, good, very good, and excellent for each question in the areas of knowledge, critical thinking, and communication. To pass, students must achieve at least a “good” rating on three out of the four questions or attain an overall average rating of “good” or higher across all questions. Scoring will be based on each grader’s judgement; however, the faculty member who wrote the question will provide guidelines on expected answers.

Assessment

The Committee will provide a copy of the assessment to the student and mentor, outlining the exam results, including strengths and areas in need of improvement. The results are final and non-negotiable. Students will be informed of their results through email. While we encourage students to reflect on their performance, individual meetings with committee members for further discussion or negotiation of scores will not be permitted, as the assessment process is designed to be fair and consistent for all candidates.

A student is admitted to the doctoral program only after he/she has successfully passed the doctoral qualifying exam. A student who does not pass the qualifying exam may be allowed to switch to the MS track if appropriate or will be dismissed from the program.