

**GRADUATE STUDENT
HANDBOOK**

Department of Entomology
University of Kentucky

Revised August 2019

The most up-to-date version is posted at <https://entomology.ca.uky.edu>

INTRODUCTION

This handbook summarizes the main policies and procedures of the Graduate School and describes the specific policies of the Department of Entomology Graduate Program.

The Graduate School rules (<http://gradschool.uky.edu/graduate-school-bulletin>) apply to all graduate students campus-wide and must be satisfied to obtain a graduate degree from any department at the University of Kentucky. In the case of ambiguity or inconsistency, the Graduate School policies supersede those documented in this handbook. Because Graduate School policies and procedures occasionally change, it is the responsibility of the student to be familiar with the most current policies, procedures, and deadlines of the Graduate School.

It is the responsibility of the Department and its faculty and staff to provide an atmosphere and environment conducive to learning, productive graduate research, and professional development.

The Department of Entomology offers a Ph.D. degree, an MS Plan A and an MS Plan B. The Ph.D. and the MS Plan A are research-based degrees. The MS Plan B is a non-thesis option. The MS Plan B degree can be pursued on-campus or online. Coursework requirements and the general benchmarks for each degree differ.

A broad array of research is conducted by the faculty in the Department of Entomology. Although there are no formal research tracks within the Department, it may be useful for students to communicate with their Advisory Committee about their career goals and their preferred informal areas of specialization, which could include (but are not limited to):

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|----------------------------|---------------------------|
| Integrated Pest Management | Insect-Plant Interactions |
| Biological Control | Insect Physiology |
| Extension Entomology | Urban Entomology |
| Urban Landscape Entomology | Medical Entomology |
| Veterinary Entomology | Chemical Ecology |
| Insect Behavior | Systematics |
| Insect Ecology | Overwintering Biology |
| Insect Pathology | Forest Entomology |
| Molecular Biology | Acarology |
| Evolution | Evolutionary Ecology |
| Population Genetics | Pollination biology |
| Social Insect Behavior | Chemical Ecology |

APPLICATION AND ADMISSION

Applications must be submitted online to the University of Kentucky Graduate School (https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantConnectLogin.asp?id=ukgrad). The following items must be **submitted electronically as part of that application**: transcripts, GRE scores, TOEFL scores (if applicable), a CV, a two-page statement of interests, an unofficial copy of transcripts, three letters of recommendation, and the application fee. The requirement for GRE scores may change for admission for the Spring Semester 2019. Your two-page statement must discuss (a) your reason for applying to an Entomology graduate program (b) your proposed area(s) of specialization, and (c) which of our faculty members' research programs are of most interest to you, and why. For the potential success of your application, it is critical for you to contact prospective faculty mentors before submitting your application.

Admission to the Graduate Program in Entomology is based on the support of a potential faculty mentor and the recommendation of the Director of Graduate Studies. Minimum admission requirements include an overall undergraduate grade point average (GPA) of 3.0 and an overall graduate GPA of 3.25. Applicants whose native language is not English must have a Test of English as a Foreign Language (TOEFL) with a minimum score of 79 on the TOEFL-iBT. A minimum overall band score of 6.5 on the International English Language Testing System (IELTS) may be used in lieu of a TOEFL score.

Meeting the minimum requirements does not guarantee admission. These minimum requirements may be waived in exceptional cases if additional evidence is presented regarding the ability of the student to do graduate work. The Graduate Program Committee will be consulted when minimum requirements are not satisfied. Admission to the Graduate Program in Entomology does not automatically guarantee financial assistance to the student.

Applicants are considered for assistantships/fellowships when applications for admission are reviewed. Applications can be submitted at any time, but later applicants may have a reduced chance of receiving a fellowship or assistantship. Ideally, applications should be submitted prior to February 1 for students planning to enroll for the Fall Semester and prior to October 1 for those planning to enroll for Spring Semester.

GRADUATE STUDENT FUNDING AND WORK EXPECTATIONS

Research Assistantships – Research assistantships are competitive and are awarded on the basis of merit. They are typically funded by grants awarded to faculty, but in some cases, they are funded from departmental research funds. Ph.D. and MS Plan A students are often provided tuition funding and a stipend for living expenses. Students should consult with their advisor about the duration of their funding and other expectations associated with their funding mechanism. Funding sources, and the associated duties for the student may change over the course of graduate study. Students must maintain a 3.0 GPA, and they are required to pay all other fees not covered by the Department.

With the exception of University-approved holidays, graduate students are expected to be engaged in research and/or coursework throughout the year. There is no schedule for accumulation of vacation days. A reasonable amount of leave time may be negotiated between the student and Major Professor.

Graduate Research Assistants are part-time employees of the Department. In general, they will work 20 hours per week performing duties as assigned by their Major Professor. They are expected to work additional hours on their own research goals and coursework. The departmental philosophy is that commitment and dedication are essential characteristics of a good graduate student. An assistantship should provide the student with the opportunity to devote his/her full attention to study and graduate research. Successful graduate work may require working on evenings and weekends when necessary to meet objectives.

The thesis or dissertation is the student's own work; however, the research is almost always consistent with the long-range objective of the Major Professor's research program. Non-thesis research or participation in activities that enhance the student's educational experience may be expected. Students are strongly encouraged to discuss the requirements and expectations related to their assistantship with their advisor prior to accepting their graduate position. The work requirements for a research assistantship are highly varied depending on the source of funds and the needs of the advisor and department.

Teaching Assistantships – Teaching assistantships at the University of Kentucky are awarded on a competitive basis and recipients are expected to assist in teaching, usually as laboratory instructors, discussion leaders, and/or graders. Students interested in teaching opportunities should consult with their Major Professor. Teaching assistants may assist with courses taught in other departments when available. Informal teaching opportunities may also be available in the Department.

Fellowships – are awarded to individuals to pursue full-time study toward an advanced degree. There are no specific duties associated with fellowships nor are specific duties to be assigned to individuals holding fellowships. However, all graduate students are expected to devote a major portion of their time toward the requirements of their degree. Fellowships should be viewed as an opportunity to devote oneself full-time to research, coursework, and professional development.

The UK Graduate School awards a small number of highly competitive fellowships, normally awarded to students with outstanding test scores, grades, and other criteria such as research experience (<https://gradschool.uky.edu/fellowships-0>). The availability, eligibility requirements, nomination and selection process and date of application vary. If the fellowship stipend is not equivalent to a research assistantship stipend, the fellowship may be supplemented within the limits established by the Graduate School.

Students are encouraged to apply for pre-doctoral fellowships available from a range of federal agencies (e.g., the NSF, NIH, and USDA) and foundations. Many of these fellowships are available to current graduate students, and often come with research and travel monies in addition to tuition waivers and living expense stipends. Students should consult with their advisor about relevant opportunities.

Research funding – Students will need funding to complete their graduate research activities. In many cases, advisors provide funding through grant money awarded to their laboratories. Students should communicate with their advisor about available funds and the appropriate use of research money and other laboratory resources. Students are encouraged to pursue outside funding sources for research dollars beyond what is available through their advisors.

Criteria for Assistantship Awards – Evaluation for assistantships and fellowships is based on academic record, GRE scores, letters of recommendation, academic honors and awards, publications, and any other available information relevant to evaluating the academic potential of the student. Since the number of available assistantships is usually less than the number of qualified applicants, the requirements for assistantships normally exceed the requirements for admission. Students having the best academic record and greatest potential for successfully completing graduate work are given highest priority for assistantship support.

Duration of Assistantships -The Entomology Department does not have a standard guaranteed duration of funding for all students because funding duration depends on the funding mechanism. Assistantships must be formally renewed each year. The normative duration of assistantships are as follows:

- MS degree Plan A: Assistantships normally will terminate at the end of 2.5 years
- Ph.D. degree without previous MS: Assistantships normally terminate at the end of 5 years
- Ph.D. degree with prior MS: Assistantships normally terminate at the end of 4 years

Review of progress and termination of graduate studies – Assistantships are awarded on a 12-month basis with renewal dependent on the student making satisfactory progress. Academic and research progress will be reviewed by the Advisory Committee. In addition, Major Professors are required to assess student progress annually using the departmental Annual Review of Progress of Graduate Students in Entomology form (http://entomology.ca.uky.edu/files/annual_review_grad_students2018form.pdf).

Extension of Assistantships beyond the normative duration may be granted on a semester-by-semester basis by the Major Professor and the Advisory Committee. Such an extension should be

supported by satisfactory progress noted on the annual review of progress.

Duration of fellowships – University fellowships are usually awarded for the academic year. Some fellowships are renewable. External fellowships have variable durations set by the funding agency.

Academic probation – Students who are placed on academic probation because of failure to maintain a 3.0 GPA will automatically be placed on probation with respect to their Assistantship. The Assistantship will be terminated if the student is not removed from academic probation after one semester unless extenuating circumstances can be identified by the Major Professor and approved by the DGS.

Students on academic probation and who are not official residents of Kentucky forfeit their eligibility for out-of-state tuition scholarships, which means that full out-of-state tuition must be paid by the student until the student is removed from academic probation.

Terminations of graduate studies – Normally, termination of a graduate student's appointment is recommended by the Advisory Committee, reviewed by the Departmental Graduate Program Committee, and acted upon by the DGS. Reasons for termination include:

- Failure of the Ph.D. Qualifying Examination
- Failure the Final Examination for the MS degree or the Ph.D. Degree
- Failure to make satisfactory research progress as determined by the Advisory Committee

ORGANIZATION AND ADMINISTRATION OF GRADUATE STUDIES

Graduate Faculty – The Graduate Faculty consists of the Dean of the Graduate School, Associate Deans of the Graduate School, and Full and Associate Graduate Faculty Members. Students whose Major Professor is not a Full Member of the Graduate Faculty will need a Full Member to co-chair their Advisory Committee.

Graduate Dean – The Dean of the Graduate School is charged with the administration of the policies adopted by the Graduate Faculty and the University Senate relating to graduate studies.

Director of Graduate Studies (DGS) – The DGS is a faculty member in the Entomology Department appointed by the Graduate Dean. He/she administers the rules of the Graduate School as they pertain to the graduate program of the department and serves as a liaison between the Graduate Dean and the faculty and students of the program. Students should consult with the DGS over concerns about course requirements and degree progress. The DGS and Department Chair also serve as resources to handle graduate student concerns and mediate issues between students and faculty members. They will also provide guidance to the student about his or her options. In rare situations, these options may include a mutually agreed upon relocation to a different research program within the Department if the conflict cannot be resolved.

Major Professor – The Major Professor advises the student on course work, chairs the Advisory Committee, and serves as the Thesis or Dissertation Director.

Advisory Committee – Each student's program is guided by a Major Professor and an Advisory Committee. The Advisory Committee is selected by the graduate student, in consultation with their Major Professor. The DGS should be notified of the committee composition by the end of the first semester of the student's tenure in the department. Ph.D. Advisory Committees should be formalized with the Graduate School during the first year of the program (ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection_Screen.cfm). MS Advisory Committees need to be registered with the Graduate School more than two weeks before the Final Exam (ris.uky.edu/cfdocs/gs/MastersCommittee/Student/Selection_Screen.cfm). Ph.D. committees must consist of at least four individuals with at least three of these being full members of the Graduate Faculty. One of these committee members must be from a unit other than the Department of Entomology. MS committees consist of at least three members of the Graduate Faculty with at least one a full member of the Graduate Faculty.

The student will present their proposed course work and their research proposal to the Committee for review and approval. The Advisory Committee will meet at least once a year with the student.

For Ph.D. students, the Advisory Committee helps to refine the research objectives, administers the Qualifying Examination, reads and comments on the dissertation, and administers the Dissertation Defense (final examination). For MS students, the Advisory Committee helps to refine the research objectives and administers the Final Examination.

REQUIREMENTS AND BENCHMARKS FOR DEGREES

Students must meet the minimum requirements established by the Graduate School:

<http://gradschool.uky.edu/graduate-school-bulletin>

Research Benchmarks

1) **Research proposal:** Students are required to prepare a formal written research proposal encompassing a thorough literature review, a clear statement of objectives, and materials and methods of the project. MS Plan A students should complete this proposal by the end of Year 1, and Ph.D. students by the end of Year 2.

2) **Research proposal seminar:** Ph.D. and MS Plan A students must present a 20 to 30-minute proposal seminar to the Department during the semester when the written research proposal is submitted to the Advisory Committee. Advisory Committees for MS Plan B students may also require a proposal seminar.

3) **Exit seminar:** MS Plan A students present a 20 - 30 min seminar on their degree work, typically during their last semester. Ph.D. students present a 50-minute seminar during their last semester. August graduates will typically present their seminar in the preceding spring. Advisory Committees for MS Plan B students may also require an exit seminar of 20 – 30 minutes.

4) **Practicum for MS Plan B.** MS Plan B students provide a detailed outline of their practicum to their Advisory Committee during their first year. Completion of the practicum requires 3 to 6 credit hours of ENT 780 or ENT 790 and a written report. It may consist of library research, special problems, internships, etc., as agreed upon by the student and Major Professor, and approved by the Advisory Committee.

5) **Written Thesis or Dissertation.** MS Plan A students and Ph.D. students must submit a written thesis (MS) or dissertation (Ph.D.) to the Graduate School after it has been defended by the student and approved by the Advisory Committee.

6) **Archiving data:** All graduate students are required to archive their research data. The DGS will require documentation that this has been completed. If other digital mechanisms have not been verified by the Major Professor, then a CD must be submitted to the DGS.

7) **Voucher specimens:** A graduate student will be required to place designated and appropriately preserved voucher specimens in a proper collection if such documentation is required by a member of the student's Advisory Committee.

Requirements

Enrollment Requirements

Until coursework is completed, graduate students must be enrolled in 9 graduate credit hours (500 level courses or above) during Fall and Spring semesters to be considered full-time students. Courses below the 500 level may be taken but will not count towards full-time status or towards the other degree requirements. The exception to this is that courses designated "400G" count towards full-time status if taken from a department outside of Entomology. The Graduate

School does not require graduate students to register during the summer unless specific courses are taken. Further details on enrollment and residency requirements can be found in the online Graduate School Bulletin: <http://gradschool.uky.edu/graduate-school-bulletin>.

Once coursework is completed, registration and tuition requirements change. Master's students must enroll in zero credit hours of ENT 748 each Fall and Spring semester to be counted as a full-time student. Only the DGS can enroll students in ENT 748. Ph.D. students who have passed their qualifying exams (and fulfilled their residency requirements) must register for 2 credits of ENT 767 each Fall and Spring semester until the dissertation is completed and successfully defended.

Course Requirements

Credit hours:

1. MS (Plan A): 24 semester credit hours of graduate course work with a GPA of 3.0 or higher, 16 hours in regular courses (excluding ENT 780, ENT 790). One-half of required coursework hours must be in the major area of study. One-half of required coursework hours must be at the 600 level or above. (This requirement will change to 30 credit hours for students admitted after Fall 2019)
2. MS (Plan B): 36 semester credit hours of graduate course work with a GPA of 3.0 or higher, 24 hours in regular courses (excluding ENT 780, ENT 790). The practicum must be a minimum of 3 credit hours (of ENT 780 and 790) and a maximum of 6 credit hours.
3. Ph.D.: 36 semester credit hours of graduate course work with a GPA of 3.0 or higher

All MS students and Ph.D. students must satisfy the following core course requirements:

1. **ENT 300 or an undergraduate course in general Entomology.** NOTE: <500 level courses do *not* count toward the 9 credit hours required to be a full-time graduate student.
2. **STA 570 Basic Statistical Analysis or an equivalent level course** approved by the Advisory Committee. The following are some alternatives:
 - **STA 580 Biostatistics I (3)**
 - **STA 671 Regression and correlation (2) and STA 672 Design and analysis of experiments (2)**
 - **STA 681 Biostatistics II (3)**
3. **ENT 770 Seminar in Entomology, or an equivalent in another department approved by the Advisory Committee.** MS students must take **two** semesters of ENT 770, and PhD students must take **four**. PhD students with an MS in Entomology must take four semesters, unless they took more than two semesters during previous graduate work.
4. **Core Area Courses.** Ph.D. students as well as MS students using the Plan A option must take a minimum of one course from two of the following core areas. MS students using the Plan B option must take a minimum of one course from all three core areas:

Core Area 1: Insect Behavior, Ecology, Evolution and Systematics

ENT 505 Evolution in Agriculture, Medicine and Conservation Biology.

ENT 564 Insect Taxonomy

ENT 568 Insect Behavior
ENT 625 Insect-Plant Relationships
ENT 660 Immature Insects
ENT 665 Insect Ecology
ENT 667 Invasive Species Biology

Core Area 2: Insect Molecular Biology, Physiology and Genetics

ENT 509 Brains & Buds: Neuroscience of Pollination
ENT 635 Insect Physiology
ENT 636 Insect Molecular Biology

Core Area 3: Pest Management and Applied Ecology

ENT 530 Integrated Pest Management
ENT 561 Insects Affecting Human and Animal Health
ENT 574 Advanced Applied Entomology
ENT 680 Biological Control

Ph.D. requirements

Ph.D. students must complete 36 credit hour (two years) residency requirement before their qualifying exam. Students that have obtained a MS degree (from UK or another University) before enrolling in our PhD program can request that their MS degree count for up to 18 credit hours of residency requirement, allowing them to finish their pre-qualifying residency requirements in two consecutive semesters.

Residency requirements may be completed in three years of full-time graduate work or the equivalent in combined full-time and part-time study (see the Graduate School Bulletin for specific residence requirements: <http://gradschool.uky.edu/graduate-school-bulletin>). In all cases, an equivalent graduate-level course from another institution is acceptable upon approval of the student's Advisory Committee. Such approval will not decrease the minimum number of credits required for residency or fulltime status but will instead permit the student to take other courses.

For the Ph.D. degree, additional specific course requirements (beyond the core requirements) are determined by the Advisory Committee.

The student will be expected to have a general knowledge of entomology as well as the broad areas of general biology, and statistics (particularly statistical or bioinformatic approaches appropriate to the student's research). The Advisory Committee has the responsibility of verifying that the student has general knowledge in entomological areas, and in those areas identified as areas for particular expertise. This evaluation can be achieved in Advisory Committee meetings with the student, the written qualifying examination, or the oral qualifying examination.

The Ph.D. is conferred upon a candidate who after completing at least three years of graduate work devoted to study of a special field of knowledge, passes a comprehensive examination on his/her dissertation subject, presents a satisfactory dissertation, and shows evidence of scholarly attainment.

Some specific requirements for the PhD degree granted through the Department of Entomology are:

1. Each student must register for 2 credits of ENT 767 each Fall and Spring semester after passing the Qualifying Examination. If all course work has been completed prior to the semester of the Qualifying Examination, the student may also register for 2 credits of ENT 767 during the semester that he/she takes the Qualifying Examination. Registration for 2 credits of ENT 767 (once a student is eligible to register in this course) constitutes full-time enrollment status. Please refer to the Graduate School Bulletin for details on post-qualifying residency: <http://gradschool.uky.edu/graduate-school-bulletin>.
2. Annual Progress Report – All graduate students will meet at least once per year with their advisor for a discussion of the student's progress. The advisor will complete the Annual Review of Progress of Graduate Students in Entomology form, which is submitted to the DGS.
3. Qualifying Examination – The qualifying examination must be both written and oral and is normally taken during or after the student's fourth semester of full-time graduate work or the equivalent. Students will be tested on their knowledge of general biology, general entomology, and statistics, and in-depth knowledge in the areas of particular expertise identified at the student's first Advisory Committee meeting.
 - a. The Written Examination. A written examination that precedes (typically two weeks before) the oral examination is required by the Graduate School. The form of the written qualifying examination is determined by the Advisory Committee. Two common formats for the written exam include 1). written questions submitted by each member of the advisory committee to the Major Professor, or 2. a grant proposal or a review article. In the case of *written question format*, the examination is monitored by the Major Professor over the course of five days. The requirements for the *grant proposal/review article format* are set by the Advisory Committee.
 - b. The Oral Examination. The oral examination is scheduled through the Graduate School, with the approval of the DGS (<http://gradschool.uky.edu/studentforms>). The request to schedule the exam must be submitted to the Graduate School at least two weeks prior to the date of the exam. However, students are advised to schedule their exam with their Advisory Committee at least three months prior to the exam date, to avoid scheduling difficulties.

If the examination is failed, a student may repeat his/her qualifying examination only with the permission of their Advisory Committee, the DGS and the Graduate Dean, and only after a minimum of four months has passed. A student has no more than two chances to pass a qualifying examination.
4. Dissertation – Each student must present a dissertation that is the result of original research. It must conform to instructions provided by the Graduate School. <http://gradschool.uky.edu/thesis-dissertation-preparation>
5. Presenting the Dissertation and Final Examination. Procedures for presenting the dissertation to the Advisory Committee and the Graduate School are as follows:

- a. **AT LEAST EIGHT WEEKS** prior to the final examination, the student will submit a Notification of the Intent to Schedule a Final Examination (Notif) form to the Graduate School. The Major Professor must verify with the DGS that the dissertation is sufficiently prepared to merit this action and the DGS must approve the Notif.
- b. The Graduate Dean will appoint an Outside Examiner as a core member of the Advisory Committee. See below regarding copy for Outside Examiner.
- c. The Student will distribute a complete copy of the dissertation to members of the Advisory Committee **AT LEAST TWO WEEKS** prior to the Final Examination.
- d. The Final Examination involves primarily a defense of the dissertation including knowledge of the literature, methods, results, statistics, and conclusions. Additional broad, conceptual, or philosophical questions arising from discussion of the dissertation research and the student's future also are appropriate. Exceptions to this would be further examination of any deficiencies identified during the qualifying examination that may be re-examined here. The Final Examination is conducted by the Advisory Committee plus an Outside Examiner appointed by the Graduate School. The examination is a public event. Any member of the University may attend.
- e. The final copy of the dissertation is prepared after the Final Examination is passed. Dissertations must be submitted to the Graduate School within 60 days of the Final Exam. A degree will not be conferred until the Graduate School has received the final dissertation.

PUBLICATION SCHOLARSHIPS

Any graduate student in the Department of Entomology is eligible for a Publication Scholarship. The goal of the Publication Scholarship is to encourage and reward excellence and efficiency. We want to increase the number of graduate student publications that are submitted to and accepted by quality journals before students leave the University of Kentucky. Such timely publication benefits the student in terms of competition for professional positions. In addition, graduate student publications are a criterion upon which our graduate program is assessed. The intent of this scholarship is to reward students, not to cover the costs of publication.

1. The student's **Major Professor** must nominate the student and a specific paper for a scholarship
2. Research reported in the manuscript must be part of an ongoing research project conducted by the graduate student at the University of Kentucky.
3. The student must be the first author on the paper.
4. The scholarships are not available to students who have completed their degrees, or to MS students who have been at the University of Kentucky for more than three years, or to Ph.D. students who have been here for more than five years.

Two types of scholarships are available:

a. **Submission scholarship:** To receive this scholarship a student's manuscript must be submitted to a **refereed scientific** journal. The journal must have a Science Citation Impact Factor equal to or greater than the median Impact Factor in Entomology (1.1 in 2018). The nomination of a substantial research publication submitted to an outlet not covered by Science Citation will be considered on a case by case basis by the Awards Committee based on a brief justification provided by the Major Professor. This justification should be based on the impact of the journal. Please include a copy of a note indicating that the manuscript has been received by the journal editor. **A student may receive only one submission scholarship per degree.** Award \$250.

b. **Acceptance scholarship:** To receive this scholarship a student's manuscript must be **accepted by a refereed scientific** journal. A note from an editor indicating that the manuscript is accepted is adequate evidence. A note indicating that the manuscript is accepted pending revisions is not adequate. The journal must meet the same standard that is indicated above for a submission award. A student may receive more than one acceptance scholarship, if adequate funds are available. Award \$250.

Submit nomination to the **Chair**.

ACADEMIC PERFORMANCE, PROBATION, AND TERMINATION

A student's cumulative GPA must be at or above a 3.0 as established by the Graduate School. If a student's GPA drops below 3.0 she/he is placed on probation. Following placement on probation, a student is allowed one semester to achieve a cumulative 3.0 GPA. Enrollment of a graduate student in the Entomology graduate program may be terminated for the following reasons (these are not the same rules used for assistantship termination):

1. Academic probation for three enrolled semesters.
2. Having failed the final examination for the MS degree or the PhD qualifying examination.
3. Unsatisfactory progress prior to the qualifying examination: Prior to the qualifying examination, the PhD student will meet annually with their Advisory Committee for review of his/her progress, course work, dissertation research, and other areas of professional development. The student will be informed by the Major Professor in writing of specific weaknesses requiring improvement. Those weaknesses considered sufficient for possible termination will be reported to the Graduate School and a time period established for correction and for another evaluation of the student. If a majority of the Graduate Faculty of the Program feel the weaknesses have not been corrected by the established time, a recommendation will be made to the Graduate School for termination of the student's enrollment.
4. Unsatisfactory progress after the qualifying examination: After passing the qualifying examination the candidate will meet annually with her/his Advisory Committee or more often if deemed necessary. In a case where the Advisory Committee recommends termination after the qualifying examination has been passed, the student may appeal to the Chair, who in consultation with the Graduate Program Committee will make the final decision.

FACILITIES

The Department of Entomology has excellent facilities and equipment for graduate research. In general, equipment is under the control of individual faculty members, however, most such equipment is readily shared among faculty members and students. Consideration for the time and property of others and knowledge of operation are essential for fostering cooperative use of facilities and equipment. Use of equipment may be denied to individuals who do not properly care for equipment and space.

GETTING STARTED

- All members of the Department should be familiar with the Departmental Code of Conduct that is posted outside the main office. The primary basis for this document comes from University policies (www.uky.edu/legal/ethical-principles-and-code-conduct).
- Desk space will be assigned by the Department Chair.
- Keys to appropriate office and laboratories can be obtained by asking the business office

staff in S-225.

- A mailbox is provided for each student in Room S-225A. Students should check their mailbox frequently. The campus address for this mailbox is Department of Entomology, S225 AGN, University of Kentucky, Lexington, KY 40546-0091.
- A department calendar and a list of weekly departmental seminars are available on the department web page: <http://entomology.ca.uky.edu/>. This calendar summarizes important Graduate School dates and departmental events.
- Departmental list-servs are a primary source of announcements and departmental communications. Students should contact Brian Lauer at (brian.lauer@uky.edu) or stop by his office (S-205) to have their e-mail address added to the departmental list-servs. Students are expected to check their e-mail regularly.
- Departmental seminars are held at 330 PM on Thursdays (Cameron Williams Auditorium in the Plant Sciences Building). Seminar guests include visiting scientists, graduate students giving proposal and exit seminars, and career development speakers. All students are expected to attend weekly Department of Entomology seminars and are encouraged to attend seminars related to their subject matter interests given by other departments.

PLACEMENT

Part of the faculty member's responsibility in accepting a graduate student advisee is to assist in placing the student in a position at the completion of the degree program. This assistance is given primarily in the form of recommendations. A student can expect a faculty member reference to give an honest appraisal of the student's academic performance, attitude, work habits, communication skills, grasp of subject matter, capability to conduct independent research, and potential future performance. It is very important for a student to develop positive professional relationships and to establish credibility with the Major Professor and members of the Advisory Committee.

CHECK SHEET

Master's Degree, Plan A

Year 1

- Selection of Advisory Committee, preferably by the end of the first semester of tenure by notifying DGS. At least one member of the Advisory Committee must be a Full Member of the Graduate Faculty.
- Research proposal submitted to Advisory Committee
- Presentation of research proposal at Departmental Seminar

Correct number of hours/requirements for program (total \geq 24 graduate credits)

- 1/2 of minimum requirements of credit hours must be at 600/700 level (12)
- 1/2 of minimum course work must be in the major area (12) and $\frac{3}{4}$ of those must be at the 600 or 700 level (9)
- 2/3 of minimum requirements of credit hours must be in regular courses (16) (e.g., not including ENT 780 or ENT 790).
- Completion of core courses and seminar requirements listed earlier in this document
- Registration for 2 credits of ENT 748 each Fall and Spring semester *after* completing required coursework. Registration for ENT 748 counts as full-time enrollment.

Preparation for graduation

- Obtain thesis guidelines from the Graduate School (available online).
<http://gradschool.uky.edu/electronic-thesis-preparation>
- Presentation of exit seminar (during final semester; Spring Semester if graduating in August)
- Apply for graduation within 30 days after beginning of semester of expected graduation; 15 days in Summer School – Submit Form online (myuk.uky.edu) to Registrar
- Notify Graduate School of the composition of the Advisory Committee by scheduling the Final Examination. This should be done at least two weeks before examination date. This should be the same committee previously submitted to the DGS.
- Submit copy of thesis to Advisory Committee at least two weeks prior to Final Examination.
- MS Final Examination

After successfully defending thesis

- Archive research data. The DGS will require documentation that this has been completed. If other digital mechanisms have not been verified by the Major Professor, then a CD must be submitted to the DGS.
- Place designated and appropriately preserved voucher specimens in a proper collection if such documentation is required by a member of the student's Advisory Committee.

CHECK SHEET

Master's Degree, Plan B

Year 1

- Selection of Advisory Committee, preferably by the end of the first semester of tenure
- At least one member of the Advisory Committee must be a Full Member of the Graduate Faculty
- Practicum proposal submitted to Advisory Committee

Correct number of hours/requirements for program (total \geq 36 graduate credits)

- 1/2 of minimum requirements of credit hours must be at 600/700 level (18)
- 1/2 of minimum course work must be in the major area (ENT) (18) and $\frac{3}{4}$ of those must be at the 600 or 700 level (14)
- 2/3 of minimum requirements of credit hours must be in regular courses (24)
- Completion of core courses and seminar requirements listed earlier in this document

Preparation for graduation

- Apply for graduation within 30 days after beginning of semester of expected graduation; 15 days in summer session – Submit Form online (myuk.uky.edu) to Registrar
- Submit copy of Practicum report to Advisory Committee at least two weeks prior to the Final Examination.
- Formal request to schedule final examination at least two weeks before exam date – Submit form online to Graduate School <http://gradschool.uky.edu/studentforms>;
- MS Final Examination

CHECK SHEET

Ph. D. Degree

Year 1

- Form Advisory Committee
- Advisory Committee must consist of at least four Members of the Graduate Faculty (at least three must be Full Members). One or two members of the Advisory Committee should be from outside of Entomology. If the Major Professor is not a Full Member of the Graduate Faculty, then a Co-Major Professor who is must be included.
- First meeting with Advisory Committee (define four areas of specialization)
- Written request to DGS for use of MS degree for 1 year of pre-qualifying residence (if applicable)
- Submit written research proposal to Advisory Committee (note some Advisory Committees will have different expectations for timing of written proposal and proposal seminar)

Year 2

- Presentation of research proposal at Departmental seminar
- Completion of course and seminar requirements listed earlier in this document
- Two years residence, pre-qualifying requirement (i.e., physical presence and enrolled full time, not a “residence course”)
- Agree with Advisory Committee about dates for the Qualifying Examination
- Schedule due date for written part of the qualifying examination with Advisory Committee
- Officially schedule oral qualifying examination two weeks (preferably more) prior to exam date with the Graduate School (<http://gradschool.uky.edu/studentforms>)

After passing qualifying exam

- Register for 2 credits of ENT 767 each Fall and Spring semester after the Qualifying Examination is successfully completed up to and including the semester in which you defend your dissertation. You may enroll in ENT 767 the same semester in which you take your qualifying examination but then you MUST take and pass your examination that semester; if you do not, then you must drop ENT 767 and enroll in a full-time course load. You do *not* need to enroll in ENT 767 during the summer, even if you defend your dissertation in the summer.

Preparation for graduation

- Obtain dissertation guidelines from the Graduate School (available online).
<http://gradschool.uky.edu/electronic-dissertation-preparation>
- Presentation of exit seminar (during final semester; Spring Semester if graduating in August)
- Application for graduation (via myuk.uky.edu) within 30 days of beginning of semester of expected graduation; 15 days during Summer School
- Notification to Graduate School of intent to schedule Final Examination (8 weeks prior) –
Submit Form online to Graduate School via <http://gradschool.uky.edu/studentforms>.
- Formal request to schedule final oral examination to Graduate School at least two weeks prior to examination date – Submit Form online to Graduate School via <http://gradschool.uky.edu/studentforms>.

After successfully defending dissertation

- Archive research data. The DGS will require documentation that this has been completed. If other digital mechanisms have not been verified by the Major Professor, then a CD must be submitted to the DGS.
- Place designated and appropriately preserved voucher specimens in a proper collection if such documentation is required by a member of the student's Advisory Committee.

THE GRADUATE FACULTY OF THE DEPARTMENT OF ENTOMOLOGY

<https://entomology.ca.uky.edu/people/faculty>

Ricardo T. Bessin
Stephen Dobson
Zachary DeVries
Julian R. Dupuis
Charles W. Fox
David Gonthier
Kenneth F. Haynes
Jonathon Larson
John J. Obrycki
Subba Reddy Palli
Daniel A. Potter
Michael F. Potter
Lynne K. Rieske-Kinney
Clare C. Rittschof
Zainulabeuddin (Zain) Syed
Nicholas M. Teets
Raul T. Villanueva
Bruce A. Webb
Jennifer A. White
Xuguo Zhou

PREREQUISITE COURSE

ENT 300 General Entomology. (3)

Fundamentals of insect biology and relationships among insects, plants, and other organisms; identification of commonly encountered insects. Beneficial and detrimental effects of insects are discussed. Offered in fall only.

GRADUATE COURSES

ENT 502 Forest Entomology. (3)

Lectures primarily address principles and concepts. Laboratories use a hands-on approach to demonstrate insect collecting and identification techniques, ecological concepts and management approaches, and use of reference materials. Offered in fall only.

ENT 505 Evolution in Agriculture, Medicine and Conservation Biology. (3)

An introduction to modern evolutionary theory with emphasis on its application to current problems in agriculture, the biomedical sciences, and conservation biology.

ENT 509 Brains & Buds: Neuroscience of Pollination. (3)

Pollinators have tremendous agricultural and societal value, and to a neuroscientist, they showcase principles of cognition in the real world. Pollinator species present exquisite examples of co-evolution, physiological and dietary specialization, navigation in complex landscapes, collective decision-making processes, and the behavioral consequences of environmental toxins and disease. In this course, we will use pollinator species (honey bees and other insects, as well as vertebrate pollinators) to explore how critical features of pollination intersect at the level of brain function, covering important neuroscience topics including sensory ecology and evolution, neural energetics, mechanisms of addiction and reward, molecular neuroscience, cognition, and learning and memory. Prereq: Students must have at least Junior standing in a life sciences discipline, or permission from instructor.

ENT 530 Integrated Pest Management. (3)

Principles of insect damage, populations and distributions. Various types of natural and applied control, including problems of insecticide toxicity, resistance and residues.

ENT 550 Spider Ecology and Behavior. (3)

Spiders are fascinating in their own right and are major predators in terrestrial food webs. This course examines the ecology and behavior of spiders as model predators in systems ranging from undisturbed forests and meadows to agroecosystems and the urban landscape. While focusing on spiders, the course also intertwines two general sub-themes: (1) the advantages of employing diverse approaches (e.g. field and laboratory experiments, non-manipulative observations, and meta-analyses) in ecological and behavioral research; and (2) the strengths, and limitations, of using model organisms to develop and test theory.

ENT 561 Insects Affecting Human and Animal Health. (3)

Discussion of arthropod parasites and disease vectors. Topics include an overview of disease transmission and public health, epidemiology, vector biology, important arthropod groups and

their control. Prerequisite: 3 credits of basic biology (BIO 103 or BIO 148 or equivalent) or permission of instructor. (Same as BIO/CPH 561.) Offered in fall – odd years.

ENT 563 Parasitology. (4)

Protozoan, helminth and arthropod parasites of man and domestic animals, emphasis on etiology, epidemiology, methods of diagnosis, control measures, and life histories. Techniques for host examination and preparation of material for study. Prerequisite: BIO 148, BIO 152, BIO 155 or BIO 198, or consent of instructor. (Same as BIO 563.) Offered by the Department of Biology.

ENT 564 Insect Taxonomy. (4)

A study of insect taxonomy including the collection, preparation, and identification of adult insect specimens. Offered in fall – even years.

ENT 568 Insect Behavior. (3)

The principles of animal behavior will be stressed using insects as examples. Physiology, mechanisms, behavioral ecology and evolution of insect behavior will be covered. Offered in spring – odd years.

ENT 574 Advanced Applied Entomology. (4)

The objective of this course is to present the student with advanced concepts of applied entomology in a system-specific context. Each week, the insect problems associated with a different commodity/production system will be presented to illustrate a different broadly-based theme. Prerequisite: An introductory entomology course and consent of instructor. Not offered recently.

ENT 595 Entomology Special Topics. (1-4)

Special and new courses may be offered under this number.

ENT 606 Conceptual Methods in Ecology and Evolution. (3)

This course provides students with hands-on experience in a diverse array of conceptual research techniques used by ecologists and evolutionary biologists. Offered by Department of Biology.

ENT 607 Advanced Evolution. (2)

This course covers advanced topics in evolution, concentrating on questions central to the understanding of general evolutionary processes. Phenomena occurring both within populations (e.g., selection, inheritance, population subdivision) and between populations (e.g., gene flow, competition) will be addressed. Offered by Department of Biology.

ENT 608 Behavioral Ecology and Life Histories. (2)

This course uses an evolutionary approach to examine behavior and life histories. Topics addressed include: the optimality approach, constraints on optimality, kin and group selection, predator and prey behaviors, social and mating behaviors, and life history evolution. Offered by Department of Biology.

ENT 609 Population and Community Ecology. (3)

This course discusses the processes that determine population distributions and dynamics and community structure for both plants and animals. Topics addressed include population regulation and population stability, community diversity and stability, ecological succession, population

interactions (competition, predation, mutualism), coevolution, and the effects of spatial and temporal heterogeneity on population and community patterns. Offered by Department of Biology.

ENT 625 Insect-Plant Relationships. (3)

This course examines the natural history, ecology, and evolution of insect/plant relationships. Topics include mechanisms and theory of plant defense, behavioral and physiological adaptations of herbivorous insects, pollination biology, multitrophic-level interactions, causes of insect outbreaks, and applications to managed ecosystems. Critical reading and discussion of current literature is emphasized. Offered in Spring – odd years.

ENT 635 Insect Physiology. (4)

Study of insect physiological processes including development, digestion, reproduction, respiration, excretion, hormones and immunity. Opportunity to learn techniques used in insect physiology and molecular biology. Prerequisite: Consent of instructor. Offered in spring – even years.

ENT 636 Insect Molecular Biology. (4)

Principles of insect molecular biology. Analysis of insect development, reproduction, behavior, immunity, transgenic insects and insecticide resistance at the molecular level. Hands-on experience with molecular biology techniques. Offered in spring – odd years.

ENT 660 Immature Insects. (3)

Bionomics, structure and classification of immature stages of insects; practice in their identification. Lecture, one hour; laboratory, six hours.

ENT 665 Insect Ecology. (3)

The biotic and physical factors influencing the distribution and abundance of insects and insect populations. Prerequisite: Consent of instructor. (Same as BIO 665.) Offered in fall – even years.

ENT 667 Invasive Species Biology. (3)

This course will examine circumstances that allow introduced species to become invasive, how invasive species threaten our resources, and approaches to minimizing the incidence and impact of invasions. Prerequisite: Graduate standing or consent of instructor. (Same as BIO/ FOR 667.)

ENT 670 Scientific Publishing: Process and Ethics. (2)

An introduction to scientific publishing, including types of scientific journals, choosing where to publish, the structure of scientific papers, the peer review process, data management and archiving, post-publication promotion of research, metrics of scientific impact such as impact factors and altmetrics, and publication ethics.

ENT 680 Biological Control. (3)

Principles related to the use of arthropods to suppress populations of arthropod pests and weeds. Includes historical perspective, ecological relationships, and contemporary issues related to the conservation and manipulation of arthropod predators, parasitoids, and herbivores.

ENT 684 Phylogenetic Systematics. (3)

Theory and methods of phylogenetic analysis and cladistics will be explained. Applications of phylogenetic analysis, such as historical biogeography, biological classification, and testing of

ecological hypotheses will be explored.

ENT 695 Special Topics in Entomology. (1-4)

Special and new courses may be offered under this number.

ENT 748 Master's Thesis Research. (0)

Half-time to full-time work on thesis. May be repeated to a maximum of six semesters.

Prerequisite: All course work toward the degree must be completed. The Director of Graduate Studies needs to register students for ENT 748.

ENT 768 Residency Credit for MS Plan A (1-6)

ENT 767 Dissertation Residency Credit. (2)

Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. **A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.**

ENT 770 Entomological Seminar. (0-1)

Discussion of current research problems in entomology. May be repeated to a maximum of six hours. Offered in fall and spring. Doctoral students take ENT 770 at least four times. MS students take ENT 770 at least 2 times. A special section of ENT 770 is available for students who have a robust teaching experience in an ENT course (see DGS for details). Seminars for credit from other departments may be substituted with Advisory Committee recommendation. After passing the qualifying examination a student may take ENT 770 for 0 credit hours.

ENT 780 Special Problems in Entomology and Acarology. (2-3)

Investigations of chosen insect problems, including original work. Discussion and assignment of current insect subjects. **May be repeated to a maximum of six credits.** Prerequisite: Consent of instructor. Offered in fall and spring.

ENT 790 Research in Entomology and Acarology. (1-6)

Independent research in entomology or acarology. **May be repeated to a maximum of 12 hours.** Prerequisite: Consent of instructor.

POST-DOCTORAL SCHOLARS AND FELLOWS

Post-doctoral Scholar:

A Post-doctoral Scholar is an individual who has earned a doctoral degree and is pursuing an individualized program of advanced training in research, teaching, and any important aspects of academic work, or in any combination of these activities for which the University has assumed a measure of responsibility. Although participation in the program provides advanced training, an academic assignment is required as a condition of appointment with salary. A Post-doctoral has status both as a temporary academic staff employee and as a Post-doctoral student.

Post-doctoral Fellow:

A Post-doctoral Fellow is an individual who has earned a doctoral degree and is a recipient of a fellowship or training award. Through such an award a fellow receives a stipend of living allowance (neither of which are considered salary) from grant funds provided specifically for a particular field of study.

Post-Doctoral Scholars & Fellows appointment paperwork will be completed by Departmental HR Administrator. Additional information is available in the Administrative Regulations (<https://www.uky.edu/regs/ar5-1>.)

LEAVE

Vacation Allowances – Post-doctoral Scholars

15 days of vacation leave shall be credited annually to the Post-doctoral Scholar on the first day of the fiscal year. If a Post-doctoral Scholar starts in the middle of the fiscal year, the days will be prorated. With prior administrative approval, Post-doctoral Scholars can only take vacation leave during the period in which they are eligible to take such leave. Vacation leave, if used, shall be taken in the assignment period in which it is credited, or the vacation leave shall be forfeited.

Temporary Disability Leave

Temporary Disability Leave (TDL) is available for regular staff with a full-time equivalent (FTE) of 0.5 or greater, and Post-doctoral Scholars. The intent of this policy is to provide leave for employees who have an illness or injury which prevents them from performing their jobs on a temporary basis, or to care for eligible family members within the guidelines of HR TDL Policy 82.0 <http://www.uky.edu/hr/policies/temporary-disability-leave>.

Temporary Disability Leave (TDL) or sick leave often cannot be approved in advance if it is directly related to the employee's health. However, it should still be documented.

Note: Post-doctoral Scholar leave is not currently entered into SAP. It is the responsibility of the Faculty member sponsoring the Post-doctoral Scholar to keep track of time used and communicate with Department HR Administrator when leave request are submitted for tracking purposes. Post-doctoral Scholars are to fill out IRIS/Absence Record for any type leave request. Contact your Department HR Administrator for a copy of the IRIS/Absence Record form.

IMPORTANT INFORMATION

Entomology Address

Department of Entomology
S-225 Agriculture Science Center North
University of Kentucky
(add 1100 S Limestone for overnight shipments)
Lexington, KY 40546-0091
Phone: 859-257-7450 Departmental Fax: 859-233-1120

Department Chair, Dr. S. Reddy Palli

rpalli@uky.edu, 859-257-7450

Director of Graduate Studies, Dr. Ken Haynes

khaynes@email.uky.edu 859-257-1618

Front Office Support Related to Graduate Studies, Jessica Van Erden

jessica.vanerden@uky.edu 859-257-7450

IT Support, Brian Lauer, brian.lauer@uky.edu

Weekly Seminar Schedule

<https://docs.google.com/document/d/1DajtgSILmm8qAOq5FqHuNvZTkoKCECYkLBIIBXs5KGs/edit>

The Graduate School <http://gradschool.uky.edu/>

Building Maintenance Emergency (e.g., broken water lines): 859-257-3844

Institutional Equity and Equal Opportunity Office: 859-257-8927

UK Counseling Center: Walk-in 106 Frazee Hall or call 859-257-8701

<https://www.uky.edu/counselingcenter/>

University Health Services: 859- 323-2778

<https://ukhealthcare.uky.edu/university-health-service/student-health>

Student Behavioral Health Clinic: (859) 323-5511

Bias Incident Support Services: (859) 257-3157 Email: BISS@uky.edu

<https://www.uky.edu/biss/>

Big Blue Pantry: (859) 257-8867 Email: bigbluepantry@ukcco.org

<http://www.uky.edu/deanofstudents/big-blue-pantry>

Laboratory Safety: <https://ehs.uky.edu/ohs/labsafe.php>

All Emergencies: 911