

# ENTOMOLOGY GRADUATE STUDENT HANDBOOK

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## Departmental Requirements for Advanced Degrees

The requirements and procedures given here are in addition to and not in lieu of, those contained in the Graduate School Policies and Procedures Manual. Consult the Manual for the basic Graduate School requirements, which are not repeated here except in summary form at the end of this handbook.

**Websites for the most up-to-date information:**

Policies and procedures: <https://gradschool.wsu.edu/policies-procedures/>

Graduate School forms and deadlines: <http://gradschool.wsu.edu/Forms>

In addition, the Entomology Graduate Program is governed by the Department of Entomology Graduate Program Bylaws, available on our website here:

<http://entomology.wsu.edu/prospective-students/graduate-program/>

### **STUDENT LEARNING OUTCOMES FOR THE MASTERS OF SCIENCE AND DOCTOR OF ENTOMOLOGY DEGREES**

The Department of Entomology offers graduate programs leading to Doctoral and Master of Science degrees. Upon completion of a degree program in Entomology, it is expected that graduates will have:

- Knowledge of Entomology and its Application
- Strong Critical and Creative Thinking Skills
- Understanding of Statistical Analyses and Research Methods
- Strong Communication Skills as Effective Scientists and Practitioners in Entomology

They will be able to design and complete a research project by using the knowledge they have accrued through completion of the curriculum and research experience. The curriculum provides the opportunity to study the basic and applied aspects of the science.

Facilities and training are available for graduate study in major areas of entomology, including (but not limited to) apiculture; behavior; integrated biological control and sustainable pest management; ecology; forest entomology; insect/plant interactions; medical/veterinary entomology; population genetics; physiology; systematics; biological diversity and environmental toxicology.

Departmental faculty, adjunct faculty, and affiliate faculty may all serve as student advisors (see rules regarding the composition of an advising committee). Faculty are housed both on campus and at Research and Extension Centers throughout the state. The ability to significantly interact with both on- and off-campus advisors and mentors offers students opportunities and perspectives not available in most programs. We maintain strong cooperative interactions with the USDA ARS lab in Wapato, Washington.

## **ENTOMOLOGY DEPARTMENT PHILOSOPHY**

The Department of Entomology at Washington State University uses evidence-based discovery and applied research to solve entomological problems and provides information through teaching and extension to undergraduates, graduates, and the citizens of Washington State in entomological issues.

## **ADMISSION REQUIREMENTS**

The departmental Graduate Admissions Committee, and the Department Chair, review all applications and recommend to the faculty whether a candidate should be considered for acceptance into a particular laboratory group.

### **Undergraduate Preparation**

No specific undergraduate major is required. Table 1 lists specific departmental requirements at the undergraduate level. The Admissions Committee will review transcripts of admitted students and indicate to the student and to the student's Advisor any course deficiencies.

### **Foreign Student Language Requirement**

All international applicants must demonstrate a basic proficiency in English by submitting official Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Michigan English Language Assessment Battery (MELAB) test scores. Scores must be less than two years old and sent directly to the Graduate School from the Educational Testing Service.

### **Graduate Student Assistantships**

Available assistantships will be offered prior to the beginning of each semester. In conformity with the Council of Graduate Schools Resolution (<https://gradschool.wsu.edu/chapter-four-f-2/>), a student may submit a written resignation of an appointment accepted prior to April 15. However, after that date the student may not accept another offer without first obtaining a written release from the institution to which a commitment had been made. An offer made after the semester begins is conditional on presentation by the student of a written release from any previously accepted offer.

## **COMMITTEE SELECTION**

All graduate students must reach agreement with a major advisor to supervise their degree program, as a condition of acceptance into the graduate program. A student having an advisor from the research faculty outside of Pullman will have a member of her/his committee designated as an on-campus advisor while the student is on campus. During the first semester the student, in consultation with his/her advisor, selects a committee of not less than 3 faculty

for M.S. and Ph.D. For M.S. and Ph.D. students at least two members of the committee must be permanent WSU tenure/tenure-track faculty in the Department of Entomology. For the Ph.D., the third member must be graduate faculty in a WSU program, but does not need to be tenure-track. External committee members must provide a CV to be submitted with the Committee Request. All members of the student's committee must hold a degree of comparable level to the degree sought by the student. Adjunct or affiliate faculty may not chair a committee; they may only co-chair or serve as a committee member.

Selection of committee members should be done in consideration of the student's interests and experience and in consultation with the major professor. The student will work with this committee to select appropriate courses, submit an approved Program of Study, develop a research program, and to review and approve the M.S. thesis or Ph.D. dissertation (<https://gradschool.wsu.edu/policies-procedures/>).

Student advisory committees are to meet at least once each year. Changes in the Committee, necessitated by absence of a committee member or other reasons, may be made at any time by filing appropriate forms with the Graduate School (<http://gradschool.wsu.edu/documents/2014/12/committee-change-form.pdf>).

#### **PUBLIC PRESENTATION OF RESEARCH AND STUDY**

For all graduate degrees, each student will be required to give a seminar describing his/her research and study activities as a partial fulfillment of the requirements for the degree. It is expected, whenever possible, that the student will give this seminar during the Department's normally-scheduled Department Seminar series. The student is responsible for scheduling the seminar and arranging for its announcement with the Chair of the Seminar Committee.

#### **ANNUAL REVIEW OF PROGRESS**

In April of each year, each graduate student will prepare a summary of accomplishments that the student's advisor will review, amend, and endorse to the Chair.

According to Graduate School policy, students who are not making adequate progress in their research will be given a "U" in their 700- or 800-research credits. If the student receives two "U" grades, he/she becomes academically deficient and can be terminated from the program.

The student can be reinstated if the program chair petitions the Dean of the Graduate School for approval to reinstate the student. The program chair must identify conditions for continuation of study in the petition request. If approved, the student will have one semester or summer session to improve his/her research progress.

This policy, and the policy on maintaining a 3.0 GPA can be found in the Graduate School Policies and Procedures (<http://gradschool.wsu.edu/chapter-six.>) As required by the Graduate School,

the names of students not making satisfactory progress will be reported to the Graduate School during May and appropriate action of termination or denying financial support will be taken if necessary.

## EXPECTATION OF PUBLICATION EFFORT

Publication of research is a vital component of science. Entomology graduate students are expected to pursue publication of their research as a key component of graduate training. Before a graduate student applies for their degree and defends the thesis/dissertation, they must submit manuscript(s) for publication to a **peer-reviewed journal(s)**.

For students in the Ph.D. track, the Department expects that at least two manuscripts be submitted for publication before the dissertation defense. For students in the M.S. track, the Department expects at least one manuscript be submitted for publication before their thesis defense. It is not required that the manuscripts be published before the defense, but they must be submitted. Publication effort is not required for the non-thesis M.S. option.

*For all graduate students, the advisory committee has the discretion to amend the expected publication effort.* Students are strongly encouraged to develop manuscripts as early as possible in the program. This will ensure that the student has sufficient time to obtain guidance and support in manuscript preparation.

## MASTER OF SCIENCE DEGREE OVERVIEW

The Master's degree may be a terminal degree or may be a preparatory phase of the Ph.D. program. Specific course requirements are listed in Tables 1-2. Other courses may be selected by the student and committee to meet the student's interests up to or exceeding the graded course work required by the Graduate School. Please refer to the Graduate School Policies and Procedures Manual for the most up-to-date information on this policy (<http://gradschool.wsu.edu/chapter-seven>.)

### Thesis Option

The student conducts original laboratory or field research and writes an acceptable thesis based on that research. The form, style, and content of the thesis must be approved by the Committee and follow the Graduate School guidelines (<http://gradschool.wsu.edu/?p=3743>). Publication of the thesis is strongly encouraged.

The final examination is a public oral examination. The focus of the examination will be determined by the thesis committee and will cover some or all of the following areas: (1) general knowledge of biology and entomology; (2) insect taxonomy; (3) applied entomology; (4) ecology; (5) evolution; (6) insect physiology; and (7) the research thesis. Other areas of specialization may also be covered at the discretion of the committee. As per Graduate School policy, if the exam is

held over videoconferencing, at least one committee member must be physically present in the room with the student (<https://gradschool.wsu.edu/policies-procedures/>).

The examining committee consists, at a minimum, of all members of the thesis committee. According to Graduate School policy, the examination shall not exceed two-and-one half-hours including the student's seminar presentation.

To assure adequate coverage of the field and fairness of questioning, the examining committee will convene 15 minutes prior to the examination to discuss the appropriateness of the questions and the level of competence expected of the student. Each member of the examining committee will have at least 15 minutes to question the student. Further questions may be asked by any participating graduate faculty member, with the remainder of the exam time divided among those Graduate Faculty present, desiring to question the student, and follow-up questions from the committee.

To vote, faculty must attend the entirety of the exam and participate in the entirety of the post-exam faculty discussion. The major professor and examining committee are encouraged to keep notes on questions and answers in the event of controversy.

In the event of failure, the student will be given an opportunity to re-take the exam a second time with a member of the Graduate Mentor Academy, appointed by the Graduate school, present. The only exception to this is if a Graduate Mentor was present at the first exam and agrees in consultation with the committee that a second exam is not warranted.

A student who has failed two exams will be terminated from the Graduate School. Graduate students have the right to an appeal if there are procedural irregularities or extenuating circumstances (please refer to the Graduate School Policy and Procedures Manual for details on the appeals process; summarized here: <https://gradschool.wsu.edu/documents/2017/07/gs-grievance-procedures.pdf> ).

### **Teaching Requirement**

Collegiate teaching experience is recommended of all M.S. candidates at the discretion of the major advisor. Methods of meeting the teaching recommendation include, with the consent of the instructor and the major advisor, one or more of the following: (1) the preparation, introductory remarks and conduct of at least 3 laboratory sessions for a course; (2) presentation of 3 lectures; or (3) other method approved by the student's advisor in consultation with the Entomology Chair such as extension presentations to stakeholders. No monetary compensation will be paid except for students on a Teaching Assistantship appointment. The instructor in charge will prepare an evaluation of the student's teaching performance either by letter or by completing a teaching evaluation to be placed in the student's file.

## Non-thesis Masters

This option is for students not planning on a research career but who are seeking broad training in entomology. While candidates may continue toward a doctoral degree following this degree, it normally is considered to be a terminal degree. Students must submit a program of study by the end of their 2<sup>nd</sup> semester and adhere to the minimum requirements of the Graduate School.

The Department requires a scholarly review article written in the style of an “Annual Review of Entomology” or other review-type article that will be reviewed by the student’s advisory committee for successful completion of the non-thesis Masters degree. The review article will be available for viewing by all Entomology faculty at the time it is provided to the advisory committee. A copy of the approved article will be deposited in the Entomology Department library.

The non-thesis examination will follow the same format as for the thesis option, except that the non-thesis student will be expected to defend their scholarly review paper.

## Summary of Procedures for M.S. Students

**1. Apply for Admission.** Applications need to be submitted directly to the WSU Graduate School (<https://gradschool.wsu.edu/apply/>). Applicants are required to submit an application letter, transcripts, GRE scores, and two letters of recommendation to be considered by the Entomology Department Graduate Admissions Committee.

Applications are considered on a rolling basis, but students applying for Fall Semester will receive priority if they apply by February 1; students applying for Spring Semester admission will receive priority if they apply by September 1. Students are encouraged to contact potential major advisors prior to submitting application materials.

Questions regarding the application process can be directed to the Johnson Hall Graduate Center Academic Coordinators (see cover for contact info).

**2. Obtain an Advisor.** Students will not receive an offer of admission to the Graduate Program in Entomology unless they have obtained a major advisor who has agreed to supervise their graduate program. As stated above, students are encouraged to contact potential advisors **prior** to applying for admission. Students who have not contacted potential advisors prior to admission will still be reviewed, but will typically receive lower priority in the admission process.

**3. Registration for First Semester.** Prior to starting, students should consult with their major advisor to determine their schedule of classes for their first semester. Registration for classes is done online via the *my.WSU.edu* system or its replacement. The most-current information about courses, dates, and availability can be found online in the WSU University Catalog (<http://catalog.wsu.edu>) or the WSU Schedule of Classes (<http://schedules.wsu.edu>).



Students will receive information about how to log in to this system in their official offer of admission from the WSU Graduate School.

Courses can be taken through the University of Idaho COOP course program but is dependent on availability and can be found at: <http://schedules.wsu.edu/COOP>. To ensure a UI course is cooperative with WSU, the UI catalog must state that the course is cooperative and open to WSU students.

**4. Enrollment and Credit Load.** 10-12 hours per semester is the normal load for full time student (including research credits). Full-time students are required to enroll in a minimum of 1 (700 or 702) research credit each term.

The Graduate School requires students to be continuously enrolled unless on approved Graduate leave (excluding summer session). A student who does not enroll, nor is on approved graduate leave, will have to apply for re-enrollment prior to registering. A student who is not enrolled for three consecutive terms will have to apply for readmission.

Students must be registered for a minimum of 2 research credits (700 or 702) in the term they take their final exam.

**5. Establishing Residency.** Domestic students are **strongly encouraged** to begin the process of establishing residency immediately after beginning their graduate program. For example, students need to register their vehicle (if applicable) and obtain a Washington driver's license within the first month they live in Washington. Other information about establishing residency can be found here: <https://gradschool.wsu.edu/establishing-residency/>. Students will receive a non-resident tuition waiver **only in their first year (two semesters)**, and students who fail to establish residency in their first year will be responsible for the non-resident portion of their tuition in subsequent years.

Please consult the website above and/or contact the graduate student residency office by email ([gradschool@wsu.edu](mailto:gradschool@wsu.edu)) or in person (Room 324, French Administration Building, Pullman Campus) to obtain additional information on establishing residency.

**6. Select a Committee.** All students are required to have an advisory committee as part of their graduate program. Students should select their committee members (as described earlier) in their **first year** (preferably in their first semester) in consultation with their major advisor. The advisory committee should meet at least once a year. The committee is defined on the Program of Study Request form (see below).

**7. Submit Program of Study.** All students are required to develop and submit a Program of Study in consultation with their major advisor and their advisory committee **in their second semester**. The Program of Study Request template including the establishment of committee form can be

found at: <http://gradschool.wsu.edu/Forms/>. Any changes to the student's committee after it is approved by the Graduate School must also be made officially through the Graduate School.

Program of Study requirements for Thesis M.S.:

- 30 hours minimum total credits
- 21 hours minimum graded courses (at least 15 hours must be 500-level)\*
- 6 hours maximum of non-graduate (300-400) course may be used towards the 21 credits
- 4 hours minimum 700 research credits
- 2 hours of 700 research credits must be taken in the semester the student will be graduating

***\*Refer to the 'Application of Rules' section of this handbook for Entomology M.S. degree course requirements.***

Program of Study requirements for Non-Thesis M.S.:

- 30 hours minimum total credits
- 26 hours minimum graded courses (at least 17 must be 500-level)\*
- 9 hours maximum of non-graduate (300-400) course may be used
- 4 hours minimum 702 research credits
- 2 hours of 702 research credits must be taken in the semester student will be graduating

***\*Refer to the 'Application of Rules' section of this handbook for Entomology M.S. degree course requirements.***

The Program of Study must be approved by all members of the advisory committee and the department chair. Students will be informed by the WSU Graduate School once their program of study has been approved or if it requires modification.

No graded courses of 'B-' or below may be dropped from a program of study for an advanced degree nor can a course be repeated for a higher grade if the final grade is 'C' or higher. Any course listed on the program of study for which a grade of 'C-' or below is earned must be repeated for a letter grade, not on a Pass/Fail basis.

Transfer credit may be used on a program of study, according to the WSU Graduate School's transfer credit policy (<https://gradschool.wsu.edu/chapter-six-g>.) Transfer credit, if requested, should be reported exactly as it appears on the original transcript. Transfer credit hours should be reported in semester hours and/or will be converted by the Graduate School. In brief, transfer credit is limited to graduate level coursework taken as a graduate student in which the student earned a B or better.

Read the full transfer credit policy for other limitations; final approval of transfer credit rests with the WSU Graduate School. Transfer credit is normally limited to half of the graded credit on the program of study. However, since Entomology has a long-standing cooperative teaching history with the University of Idaho, and UI COOP coursework falls in the transfer credit category, the WSU Graduate School has granted Entomology a blanket exception to allow up to 12 transfer credits toward the Entomology thesis master's degree, and up to 15 transfer credits toward the Entomology non-thesis master's degree—which includes UI COOP graduate-level coursework in which the student has earned a B or better.

**It is important to note that transfer credit will show up on the student's transcript as transfer credits and does not count towards the student's WSU GPA.** *Undergraduate 300/400 level credit taken at another institution (including UI) cannot be used as transfer credit on your graduate program of study.*

**8. Research.** Students are advised to discuss the research component for their M.S. Thesis in consultation with their major advisor, their advisory committee, other faculty, and other students. Students are typically more successful if they identify their research areas quickly after arriving in the graduate program. Students in the thesis option will produce a thesis, which is a scholarly, original study that is a significant contribution to the knowledge of the chosen discipline.

**9. Apply for degree.** Students need to apply for their degree mid-way through the semester before they plan to conduct their final examination. It is the student's responsibility to be aware of deadlines in their last two semesters. The Application for Degree form (<http://gradschool.wsu.edu/graduation-application/>) is done online and the fee must be paid before the final exam is scheduled.

**10. Thesis Timeline.** The thesis must conform to WSU Graduate School guidelines (<http://gradschool.wsu.edu/?p=3743>). The student is expected to work closely with their major advisor to revise and edit the thesis before sending it to the advisory committee for approval. The advisory committee should get a minimum of 2 weeks to review the thesis, although more time may be requested at the discretion of the advisory committee. **After the advisory committee has approved of the thesis,** the student may schedule the final exam.

**11. Scheduling the Final Examination.** The student must have completed or be enrolled in all of the required course work, have a minimum cumulative GPA of 3.0, have met all admission contingencies, and be registered for the remainder of their research credits: a minimum of two credits of 700 (thesis option) or 702 (non-thesis option) for the semester or summer session in which the final examination is to be taken.

The final exam scheduling form (<http://gradschool.wsu.edu/Forms>) must be submitted complete with committee signatures to the Johnson Hall Graduate Center Academic Coordinator (Deb Marsh, [marshdj@wsu.edu](mailto:marshdj@wsu.edu), Johnson Hall 131) at least 10 (ten) or more working days prior to the

**anticipated examination for submission to the Department Chair and Graduate School.** A copy of the examinee's thesis must be available for public inspection in the department/program offices for at least 5 working days prior to the final examination. An electronic pdf copy to both the Johnson Hall Graduate Center Academic Coordinator (Deb Marsh, [marshdj@wsu.edu](mailto:marshdj@wsu.edu)) and to the WSU Graduate School ([gradschool@wsu.edu](mailto:gradschool@wsu.edu)) should be submitted no later than 10 working days in advance of the proposed exam date. Earlier submission is recommended.

**12. Final Oral Examination.** A final examination and ballot meeting is required of all master's candidates. This examination is intended to test the candidate's ability to carry out a critical dialogue that includes analyzing, synthesizing and evaluating material in the major and supporting fields (with emphasis on the work presented in the thesis or special problem).

As stated above, a non-thesis examination will follow the same format as for the thesis option, except that the non-thesis student will be expected to defend their scholarly review paper.

**13. Submitting Final Thesis to Graduate School (Thesis Option Only).** After passing the final examination, an electronic copy of the corrected thesis must be submitted following the Graduate School's guidelines for digital submission *within five working days of the final oral examination.* Students should use the [Final Dissertation/Thesis Acceptance Checklist](#) when preparing the PDF electronic copy for submission. In addition, the following must be submitted to the Dissertation/Thesis Acceptance clerk in the Graduate School within five working days of the final oral examination. All students must submit a 100% cotton fiber paper copy of the title page, abstract page, and signature page signed in black ink by all committee members. All students must submit a completed [Hold Harmless/Copyright Acknowledgement](#) form. The Graduate School will continue to perform the format check and provide guidance to students in these final steps..

## **DOCTOR OF PHILOSOPHY DEGREE OVERVIEW**

In pursuit of a Ph.D. degree in Entomology, the student should: (1) attain knowledge of basic biological and scientific principles at a greater depth than for a M.S.; (2) be familiar with the history of entomology and biology and current problems in entomology; and (3) have a knowledge of entomological literature and methods. The dissertation should demonstrate an ability to plan, execute and synthesize original research focused on entomological problems.

The objective of Ph.D. dissertation research is to train students in all aspects of scientific endeavor including: (1) selecting a potential problem and designing experiments to test hypotheses; (2) performing field and/or laboratory experiments designed to observe biological and/or behavioral events; (3) preparing research proposals which would be acceptable to external funding sources such as NSF, NIH, USDA, and other funding agencies; (4) analyzing biological data using current techniques; and (5) interpreting results with reasonable extrapolation and speculation on the significance of the research and future directions. The Ph.D. dissertation research should form a cohesive and significant piece of work, carried out in a professional and competent manner, which leads to the advancement of scientific knowledge.

Specific course requirements are listed in Tables 1-2. Other courses may be selected by the student and committee to meet the student's interests up to or exceeding the 15 500-level hours of graded course work required for the Ph.D. in Entomology. The Graduate School requires 72 credits overall for the Ph.D. degree, including research credits. Please refer to the Graduate School Policies and Procedures Manual for the most up-to-date information on this policy (<http://gradschool.wsu.edu/chapter-eight>).

### **Oral Research Proposal**

Before the Oral Preliminary Examination, the student must present a formal Oral Research Proposal to the faculty and students. Faculty and students will be notified at least one week before the oral presentation. The oral presentation will usually be made during the regular Department Seminar period, but under extenuating circumstances, and with the approval of the student's committee and the Department Chair, can be made at a specially scheduled time. Following a presentation of not more than 45 minutes, the candidate will respond to questions and suggestions, which is open to the WSU community. The proposal, oral presentation, and subsequent questioning, are required to evaluate the student's ability to analyze and interpret scientific literature, design experiments, communicate with other scientists, and to assess the student's awareness of current developments in entomology. Students are strongly encouraged to make the Oral Research Presentation as early in their program as possible.

### **Written Research Proposal**

Each student will prepare a written research proposal that is due by the end of the third semester. The proposal should be suitable for submission to a federal fund-granting agency. During the semester that the written research proposal is due, the student will enroll for a

minimum of 2 hours of ENTOM 800 research credit for preparation of the proposal. Electronic copies of the proposal will be sent to each committee member. Also, an electronic copy of each proposal will be placed on the departmental SharePoint site to be made available to all faculty. All faculty will be notified by email when a proposal is uploaded to SharePoint. Faculty will have 30 days to vote whether the proposal is acceptable; a simple majority voting “unacceptable” will send the proposal back to the student, advisor and committee for revision and eventual resubmission to the faculty. All votes of “unacceptable” must be accompanied by a brief, written justification for this recommendation. The research proposal should follow the format of an NSF, USDA, or EPA grant application, or an example template prescribed by the Department of Entomology and approved by the student’s committee. It is expected that, whenever possible, this proposal will be submitted to a granting agency to be considered for funding.

### **Oral Preliminary Doctoral Examination**

After a student has completed all or most course work, has given a research proposal presentation, and completed a written research proposal requirement the student may schedule the Oral Preliminary Examination. The Preliminary Oral Examination is conducted under Graduate School Policy and Procedures (<https://gradschool.wsu.edu/chapter-eight-c/>). The examination must be scheduled during regular or summer sessions [the student must be enrolled], and should be scheduled to allow the greatest participation by the Entomology Faculty.

With the consent of the examined student, Entomology Ph.D. graduate students are allowed to attend the Oral Preliminary Exam in an observational role only. Retakes following a failed examination are restricted to faculty participation only.

A meeting of all faculty intending to question the candidate is held immediately before the examination to determine the nature of the questions and answers in the event of disputes. There is no time limit on the examination. Procedures in the event of failure are outlined below, and at: <https://gradschool.wsu.edu/chapter-eight-c/>.

### **Teaching Requirement**

Collegiate teaching experience is required of all Ph.D. candidates and should be undertaken with the advice of the Ph.D. committee. A minimum of one semester of teaching involvement is suggested. In addition to serving as a Teaching Assistant, other methods of meeting the teaching requirement for a semester include, with the consent of the instructor and the Ph.D. advisory committee: (1) the preparation, introductory remarks, and conduct of at least 3 laboratory sessions for an entomology course; (2) presentation of 3 lectures; or (3) some other method approved by the student's advisor in consultation with the Entomology Chair such as extension presentations or workshops to stakeholders. No monetary compensation will be paid except for students on a TA appointment. The instructor or Professor in charge will prepare an evaluation

of the student's teaching performance either by letter or by completing a teaching or extension presentation evaluation to be placed in the student's file.

### **Dissertation & Final Doctoral Examination**

The form, style, and content of the thesis must be approved by the committee and follow the Graduate School guidelines (<http://gradschool.wsu.edu/?p=3743>). Students need to apply for their degree mid-way through the semester before they plan to conduct their final examination. It is the student's responsibility to be aware of deadlines in their last two semesters. The Application for Degree is form is found in your myWSU Student Center and the fee must be paid before the final exam is scheduled. A Ph.D. student may not take the final examination without prior submission of at least 2 manuscripts to a peer-reviewed journal(s) (see *Expectation of Publication Effort* above), unless that expectation is waived by the student's committee. Publication of the dissertation is strongly encouraged. The oral Final Doctoral Examination is conducted under Graduate School policy (<http://gradschool.wsu.edu/chapter-eight-c/>).

### **Summary of Procedures for Ph.D. Students**

Complete WSU policies and procedures for doctoral students are found at: <https://gradschool.wsu.edu/chapter-eight/>. Steps towards completing the Ph. D. degree, including those specific to the Entomology Department, are:

**1. Apply for Admission.** Applications need to be submitted directly to the WSU Graduate School at WSU (<https://gradschool.wsu.edu/apply/>). Applicants are required to submit an application letter, transcripts, GRE scores, and two letters of recommendation to be considered by the Entomology Department Graduate Admissions Committee. Applications are considered on a rolling basis, but students applying for Fall Semester will receive priority if they apply by February 1; students applying for Spring Semester admission will receive priority if they apply by September 1. Students are encouraged to contact potential major advisors prior to submitting application materials. Questions regarding the application process can be directed to the Johnson Hall Graduate Center Academic Coordinators (see cover for contact info).

**2. Obtain an Advisor.** Students will not receive an offer of admission to the Graduate Program in Entomology unless they have arranged a major advisor who has agreed to supervise their graduate program. As stated above, students are encouraged to contact potential advisors **prior** to applying for admission.

**3. Registration for First Semester.** Prior to starting, students should consult with their major advisor to determine their schedule of classes for their first semester. Registration for classes is done online via the *my.WSU.edu*. The most current information about courses, dates, and availability can be found online in the WSU University Catalog (<http://catalog.wsu.edu>) or the WSU Schedule of Classes (<http://schedules.wsu.edu>). Students will receive information about how to log into this system in their official offer of admission from the WSU Graduate School. A

full-time student is expected to take a minimum of 10 credits per semester (including a minimum of 1 research credit).

Courses can be taken through the University of Idaho COOP course program but is dependent on availability and can be found at: <http://schedules.wsu.edu/COOP>. To ensure a UI course is cooperative with WSU, the UI catalog must state that the course is cooperative and open to WSU students.

**4. Enrollment and Credit Load.** 10-12 hours per semester is the normal load for a full time student, however Ph.D. students especially need to be certain they will meet their required total research credits (usually 45-55) by their final term. Full-time students are required to enroll in a minimum of 1 (800) research credit each term. The Graduate School requires students to be continuously enrolled unless on approved Graduate leave (excluding summer session).

A student who does not enroll nor is on approved graduate leave, will have to apply for re-enrollment prior to registering again. A student who is not enrolled for three consecutive terms will have to apply for readmission. Ph.D. students who have completed their prelims and are not able to enroll will automatically be placed in Continuous Doctoral Status (CDS) and charged a fee each semester to allow students limited access to academic resources (i.e., faculty and staff counsel) and the University libraries.; as such they will not need to apply for graduate leave. Students must be enrolled in a minimum of 2 research credits in the term of both their preliminary and final exams.

**5. Establishing Residency.** Domestic students are **strongly encouraged** to begin the process of establishing residency immediately after beginning their graduate program. For example, students need to register their vehicle (if applicable) and obtain a Washington driver's license within the first month they live in Washington. Other information about establishing residency can be found here: <http://residency.wsu.edu/>.

Students will receive a non-resident tuition waiver **only in their first year**; students who fail to establish residency in their first year will be responsible for the non-resident portion of their tuition in subsequent years. Please consult the website above and/or contact the graduate student residency office by email ([gradschool@wsu.edu](mailto:gradschool@wsu.edu)) or in person (Room 324, French Administration Building, Pullman Campus), to obtain additional information on establishing residency.

**6. Select a Committee.** All students are required to have an advisory committee as part of their graduate program. Students **should select their committee members in their second semester** of study (as described earlier). The advisory committee should meet at least once a year. The committee is defined on the Program of Study Request form (below).

**7. Submit Program of Study.** All students are required to develop and submit a Program of Study in consultation with their major advisor and their advisory committee **by the beginning of the**



**third semester of study.** The Program of Study Request template (includes establishment of committee) can be found at: <http://gradschool.wsu.edu/Forms/>. The Program of Study must be approved by all members of the advisory committee and the Department Chair. Students will be informed by the Graduate School once their program of study has been approved, or notified that it requires modification. Any changes to the student's committee after it is approved by the Graduate School must also be made officially through the Graduate School.

Program of Study requirements for the Ph.D. in Entomology:

- 72 hours minimum total credits
- **15 hours minimum** graded graduate-level (500-level) courses\*
- 9 hours maximum of non-graduate course (300- or 400-level courses) may be used towards the 72 total credits
- 20 hours minimum 800-level research credits
- Courses for audit or S/F may not be used for the program of study but can be noted on the Research and Additional studies section.
- 2 hours of research credits must be taken in the semester student will be finishing.

*\*Refer to the 'Application of Rules' section of this handbook for departmental course requirements.*

No graded courses of 'B-' or below may be dropped from a program of study for an advanced degree nor can a course be repeated for a higher grade if the final grade is 'C' or higher. Any course listed on the program of study for which a grade of 'C-' or below is earned must be repeated for a letter grade, not on a Pass/Fail basis.

Transfer credit may be used on a program of study, according to the WSU Graduate School's transfer credit policy (<https://gradschool.wsu.edu/chapter-six-g>.) Transfer credit, if requested, should be reported exactly as it appears on the original transcript. Transfer credit hours should be reported in semester hours and/or will be converted by the Graduate School. In brief, transfer credit is limited to graduate level coursework taken as a graduate student in which the student earned a B or better.

Read the full transfer credit policy for other limitations; final approval of transfer credit rests with the WSU Graduate School. Transfer credit is normally limited to half of the graded credit on the program of study. WSU Entomology has a long-standing cooperative teaching history with the University of Idaho, and UI COOP coursework falls in the transfer credit category, the WSU Graduate School has granted Entomology a blanket exception to allow up to 9 transfer credits toward the Entomology doctoral degree—which includes UI COOP graduate-level coursework in which the student has earned a B or better.

**It is important to note that transfer credit will show up on the student's transcript as transfer credits and does not count towards the student's WSU GPA. Undergraduate 300/400 level credit**

taken at another institution (including UI) cannot be used as transfer credit on your graduate program of study.

**8. Research.** Students are advised to develop the research component of their dissertation in consultation with their major advisor, their advisory committee, other faculty, and other students. Students are typically more successful if they identify their research areas quickly (within the first two semesters) after starting their graduate program.

**9. Oral Research Proposal Presentation.** Before the Oral Preliminary Exam can be completed, the student must present a research plan to the faculty and students, for feedback and criticism. This will normally be scheduled as part of the department's weekly Department Seminar series.

**10. Oral Preliminary Examination.** Requirements for the Oral examination follow those dictated by the WSU Graduate School (<https://gradschool.wsu.edu/chapter-eight/>). The oral examination is held after the majority of coursework, and the Oral Research Proposal, has been completed, and with approval by the student's major advisor.

The fully signed preliminary exam scheduling form (found here: <http://gradschool.wsu.edu/Forms>) must be submitted to the Graduate School via the Academic Coordinator (Deb Marsh, [marshdj@wsu.edu](mailto:marshdj@wsu.edu), Johnson Hall 131) at least **10 (ten) or more working days prior to the anticipated examination**. The student must be registered for two hours of Entom 800 at the beginning of the semester in which the exam is scheduled, and have a GPA  $\geq$  3.0.

Any faculty member may attend the exam and ask questions; if they attend for the entire exam and question the candidate, they may vote (per Graduate School policy). All doctoral committee members must be present and must vote. Exam sessions must be suspended if any voting faculty member leaves the session (even briefly).

There is no time limit to these exams, except that exams must be completed within 30 days of their initiation, as per WSU Graduate School policy. To pass, three-fourths of those voting must be favorable. If a student fails, a second and final examination must be scheduled at least three months later, with the scheduling form submitted at least fifteen days before the exam date (allowing time for a member of the Graduate Mentor Academy to be assigned to attend the exam, as arranged by the Graduate School). A second failed exam leads to termination.

With the consent of the examined student, Entomology graduate students are allowed to attend the Oral Preliminary Exam in an observational role only. Retakes following a failed examination are restricted to faculty participation only. **At least four months must pass between completion of the preliminary exam, and scheduling of the final oral examination.**

**11. Written Research proposal.** Doctoral students will (1) prepare a written research proposal prior to their research proposal presentation and (2) make this proposal available to committee members and other faculty for their approval as described previously.

**12. Apply for degree.** Students need to apply for their degree mid-way through the semester before they plan to conduct their final examination, It is the student's responsibility to be aware of deadlines in their last two semesters. The Application for Degree is form is found in your myWSU Student Center and the \$50 fee must be paid before the final exam is scheduled.

**13. Dissertation Timeline.** The dissertation must conform to WSU Graduate School guidelines (<http://gradschool.wsu.edu/?p=3743>). The student is expected to work closely with their major advisor to revise and edit the dissertation before sending it to the advisory committee for approval. The advisory committee should get a minimum of 10 working days to review the dissertation, although more time may be requested at the discretion of the advisory committee. After the dissertation has been approved by the advisory committee, the student may schedule the final exam.

**14. Final Oral Research Presentation.** An oral presentation describing the dissertation research precedes the Final Oral Examination, and should be scheduled as part of the regular Department Seminar schedule if possible.

**15. Scheduling the Final Examination.** The student must have completed or be enrolled in all of the required course work, have a minimum cumulative GPA of 3.0, have met all admission contingencies, and be registered for the remainder of their research credits: a minimum of two credits of ENTOM 800 for the semester or summer session in which the final examination is to be taken. A Ph.D. student may not take the final examination without prior submission of at least 2 manuscripts to a peer-reviewed journal(s) (see *Expectation of Publication Effort* above), unless that expectation is waived by the student's committee.

The final exam scheduling form (<http://gradschool.wsu.edu/Forms>) must be submitted complete with committee signatures to the Johnson Hall Graduate Center (Deb Marsh, [marshdj@wsu.edu](mailto:marshdj@wsu.edu), Johnson Hall 131) at least 10 (ten) or more working days prior to the anticipated examination for submission to the Department Chair and Graduate School.

A copy of the examinee's dissertation must be available for public inspection in the department/program offices for at least 5 working days prior to the final examination. An electronic pdf copy to both the Johnson Hall Graduate Center Academic Coordinator (Deb Marsh, [marshdj@wsu.edu](mailto:marshdj@wsu.edu)) and to the WSU Graduate School ([gradschool@wsu.edu](mailto:gradschool@wsu.edu)) should be submitted no later than 10 working days in advance of the proposed exam date. Earlier submission is recommended.

**16. Final Oral Examination.** A final examination is required of all Ph.D. candidates. This examination is intended to test the candidate's ability to critique, justify, assess, and evaluate

material in the major and supporting fields with emphasis on the work presented in the dissertation.

**17. Submitting Final Dissertation to Graduate School.** After passing the final examination, an electronic copy of the corrected dissertation must be submitted, following the Graduate School's guidelines for digital submission, *within five working days of the final oral examination*. Students should use the [Final Dissertation/Thesis Acceptance Checklist](#) when preparing the electronic copy for submission. To summarize, the following must be submitted to the Dissertation/Thesis Acceptance clerk in the Graduate School within five working days of the final oral examination: (1) a 100% cotton fiber paper copy of the title page, abstract page, and signature page signed in black ink by all committee members; (2) a completed [Hold Harmless/Copyright Acknowledgement](#) form; and (3) a fully-digital PDF version of the doctoral dissertation per the [Digital Dissertation and Thesis Guidelines](#) on the Graduate School's website. The Graduate School will continue to perform the format check and provide guidance to students in these final steps.

All institutions require that doctoral dissertations be published, and ProQuest Dissertations & Theses Database is the recognized repository for dissertations. Washington State University has long subscribed to Proquest (formerly UMI) to serve as the publisher, cataloger, and marketer of doctoral dissertations. Please visit the ProQuest website for more information: [www.proquest.com](http://www.proquest.com).

Students are given two publishing options: The Traditional Publishing option, which is free, and the Open Access option, which has a fee associated with it. A publishing option guide, which explains these two options in detail, can be downloaded from the ProQuest website: <http://www.proquest.com/products-services/dissertations/submit-a-dissertation.html>. With either option, the student retains his/her copyright to the dissertation. ProQuest also offers an optional service in which they will register the student's copyright with the U.S. Copyright Office for an additional fee. Students also may request a publishing embargo, if needed.

**APPLICATION OF RULES**

All graduate students are bound by the provisions of the written Departmental requirements that are in effect at the time the student receives approval for the Graduate Program of Study, unless the student states in writing their acceptance of new rules adopted after that time. Graduate School Policies and Procedures are updated annually, and all graduate students are required to abide by and meet the regulations and policies set forth in the most current and revised Graduate School Policies and Procedures Manual (<https://gradschool.wsu.edu/policies-procedures/>).

**Table 1. Courses Required at the Undergraduate Level**

Students lacking these courses or their equivalents must take them in addition to their graduate program. Exceptions to these requirements may be made by a majority vote of the student’s graduate committee.

<b>Subject:</b>	<b>Suitable WSU Courses:</b>
General Entomology	ENTOM 343
General Genetics	MBioS301
Introductory Ecology	BIOL 372
Chemistry	CHEM 332
Plant Science	BIOL (BOT) 318, 320 or HORT 201 or 304

**Table 2. Additional courses required for M.S./Ph.D. Degree**

Students are expected to complete two core courses (Insect Physiology and Insect Taxonomy) and take an additional course to fulfill a key knowledge area in Biometry/Bioinformatics. Courses that may be used to fulfill these two knowledge areas are listed below. Courses in addition to those below may be deemed acceptable to fulfill the knowledge areas with a majority vote of the student’s graduate committee. Additional training in Entomology will be obtained through completion of “Special Topics in Entomology” courses, which will be offered each semester by different departmental faculty.

<b>Subject:</b>	<b>Suitable WSU Courses:</b>
Insect Physiology	ENTOM 550
Insect Taxonomy	ENTOM 539 or UI COOP ENT 540
Special Topics in Entomology	ENTOM 590 3 semesters minimum for MS students 4 semesters minimum for PhD students
Biometry/Bioinformatics (knowledge area)	AFS/STAT 511, STAT 512, STAT 520, STAT 530, BIOL 572, MBIOS 578
Additional courses may be required by student's Graduate Advisory Committee.	

Addendum

Consult these websites for the most up-to-date information:

### Graduate School Policies and Procedures

<https://gradschool.wsu.edu/policies-procedures/>

### WSU and Graduate School Catalogs

<http://catalog.wsu.edu>

<https://gradschool.wsu.edu/graduate-school-catalog-2/>

<http://uidaho.smartcatalogiq.com/en/2017-2018/University-of-Idaho-General-Catalog/Courses/ENT-Entomology>

Entomology and IPM course descriptions are provided in this addendum.

### Forms and Deadlines

<http://gradschool.wsu.edu/Forms>

Examples of these forms provided in this addendum

**(use the electronic versions at the link above-----forms must be typed):**

Deadlines and Procedures for Master's Degrees

Deadlines and Procedures for Doctoral Degrees

Program of Study Request

External Committee Member Request

Program Change

Committee Change

Preliminary Exam Scheduling Form

Final Exam Scheduling Form

Final Exam Scheduling Form (non-thesis)