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INTRODUCTION

Welcome to the Department of Entomology at the University of Minnesota!

Who Needs This Manual?  This manual is written for entering and resident graduate students in the department. It also serves faculty and staff as the main reference on our degree requirements and departmental policies affecting graduate students. Chapters 2-5 contain descriptions of the goals and requirements for our three graduate degrees. Chapters 6-8 contain policy statements, rules and tips on how students can get "the little things" accomplished smoothly in the department.

Other Sources of Information This manual supplements information provided in the Graduate School Catalog (http://www.catalogs.umn.edu/grad/index.html) and information found on the UMN Graduate School website (http://www.grad.umn.edu/). Particularly important websites at the Graduate School are sites specific to current Doctoral students (http://www.grad.umn.edu/students/doctoral/index.html) and current Master’s students (http://www.grad.umn.edu/students/masters/index.html).

The graduate school also provides a chart of ‘degree completion steps’ for Ph.D. and M.S. students. The chart has links to the forms needed and additional links that lead to the ‘WorkflowGen’ system of authorizations, which are needed for advisor, Graduate Program Coordinator (GPC), Director of Graduate Studies and Graduate School approvals of various milestones along the way. These charts are available here: https://www.grad.umn.edu/sites/grad.umn.edu/files/otr204-12-5-2017.pdf

Of course, students should feel free to contact the Department's Director of Graduate Studies (DGS), or the Graduate Program Coordinator (GPC) for any questions or advice.

Graduate School During residence in our programs, students should remain in contact with the Graduate School about all of their deadlines as they can change. In addition, the Graduate School should be consulted regarding such matters as transfer of credits, tuition, fees, residency requirements, thesis credit requirements, and taxes on assistantships.

Departmental Missions

The mission of the Department of Entomology is to conduct research and education in the science of entomology, emphasizing the systematics, biodiversity, biology, ecology, and importance of insects and their relatives in relation to human welfare, and the maintenance of a healthy environment.

The Entomology Graduate Program offers M.S. Plan A (with thesis), M.S. Plan B (without thesis), and Ph.D. degrees (with dissertation). Students earn these degrees by satisfying the appropriate degree requirements. The graduate faculty defines the requirements, but the Graduate School awards the degrees. While in residence in the Department, graduate students receive advanced training as scholars, as researchers, and as teachers of the discipline. At the same time, graduate students themselves contribute to teaching, research and service in the department.
Overview of Graduate Programs

Students receiving a Ph.D., an M.S. Plan A, or an M.S. Plan B in Entomology will graduate with the following:

Program Goals

Core knowledge: A basic command of core areas of entomology, including general entomology, insect taxonomy, insect physiology and insect ecology.

Specialty knowledge: In-depth knowledge of one or more areas within entomology, and advanced knowledge from one or more outside, related fields.

Critical thinking: Ability to define problems, assemble facts and apply logic to solve problems.

Communication skills: Ability to communicate facts and logic, both in writing and in oral presentations.

Research skills: Ability to do original research, interpret data, and communicate results.

Perspective: Ability to relate current issues in entomology to broader scientific issues facing agriculture, biology and society in general.

Distinctions Among Degrees
Distinctions among the three degrees are based largely on research accomplishments.

Ph.D. students will design and complete a research project (dissertation) that makes a significant contribution to their sub-discipline.

M.S. Plan A students will complete a research project (thesis) that contributes original knowledge. Students considering careers in entomological research are strongly encouraged to pursue a Plan A degree.

M.S. Plan B students will complete one to three written projects that demonstrate scholarship and familiarity with methods of entomological research. Incoming M.S. students should understand clearly that Plan B is intended for returning professionals who desire advanced coursework in entomology.

It is the responsibility of the major advisor and the student's Advisory Committee to judge whether a student's research accomplishments satisfy appropriate degree criteria.

Foreign Language: The Entomology Graduate Program does not have a foreign language requirement. However, a reading knowledge of a foreign language may be required if judged necessary to reach a student's research objectives. The need for and means of satisfying such a requirement will be decided upon jointly by the student, major advisor, and other members of the student's advisory committee.

Key Contacts: Students will have many contacts with department staff and graduate faculty during their degree program. Aside from the student’s Graduate Advisor (or Co-advisors), six deserve mention here because they are important sources of information and services.

Director of Graduate Studies (DGS): Robert Koch. The DGS is responsible for the graduate programs in Entomology. The DGS oversees recruitment and admittance of new students and monitors students' progress through their degree programs. The DGS is the departmental liaison among the graduate faculty, the graduate students, and the Graduate School.
Graduate Program Coordinator (GPC): Tammi Pekkala Matthews. Tammi is the DGS assistant. The GPC is responsible for the GPAS system and graduate student appointments in addition to other departmental tasks.

Department Head: Sujaya Rao. Her office is in the department's office, 219 Hodson. She is the department's spokesperson within the College of Food, Agricultural and Natural Resource Sciences (CFANS) and the University of Minnesota. She is also administratively responsible for the department, leading the department's research and teaching programs, developing the department's budget, hiring faculty and staff, appointing graduate assistants, and ensuring compliance with the laws, rules and regulations of the College and the University of Minnesota.

Associate Administrator: Hilary Strander. Many activities will involve use of services in the main office, where all secretarial and accounting activities are administered. The Admin is responsible for payroll, scholarship/fellowship dispersal and other transactions approved by a member of the faculty. The department's accountant is responsible for payroll, purchasing, expense reports, and other fiscal matters.

Written Prelim Coordinator: Brian Aukema. The Prelim Coordinator’s responsibilities include assigning members of the multiple exam committees per calendar year. Periodically, the corresponding committees will compile background readings, write a question, and present them to the Prelim Coordinator. The Prelim Coordinator will place the readings on CANVAS and publicize the date for each question.

CFANS Graduate Programs Manager (GPM): Marie Monter. The GPM is an assistant of the Associate Dean Greg Cuomo. The GPM manages the College of Food, Agricultural and Natural Resource Sciences (CFANS) 12 graduate programs. The position works to develop policy and process for CFANS graduate students, faculty and staff.
DEGREE PROGRAM REQUIREMENTS

Degree requirements are described in detail below. An example timeline is provided and filing procedures are found in the elsewhere in this manual.

Registration Requirements
All graduate students are required to register in the Graduate School every fall and spring term to maintain their active status. Active status is required for students to be able to register for courses, take exams, submit milestone forms, file for graduation, or otherwise participate in the University community as a graduate student. While perusing program requirements in subsequent sections, please be aware of three important details:

Six credit minimum: Many students in the department are financially supported by research or teaching assistantships (RA paid position). All RAs must register for a minimum of six (6) credits to be considered full-time students. International students paid through the department need to take care that they never fall below the 6 credit minimum. Falling below the 6 credit minimum may be grounds for deportation.

Fourteen credit recommendation: If you are an RA, your tuition benefit allows you to register for up to 14 credits without extra charge. A portion of tuition revenue is returned to the department, so it is in the department's best interest that you register for 14 credits (until eligible for one credit status; see below). For example, a typical semester may have 3 core or elective courses that sum to 10 credits. Fill up the rest of the credits to 14 with variable credit ENT 8888 (Doctoral thesis credits – 24 are required) or 8777 (MS thesis credits, 10 are required). You should take 14 credits each semester until you qualify for Advanced Master's or Ph.D. Candidate status.

Advanced one credit status: After you have completed all required course and degree requirements other than defending your thesis or dissertation, you become eligible to enroll as an Advanced Master's or PhD student. This status is often achieved in latter semester(s) of the student’s degree program. Advanced one credit status results in a lower tuition charge paid by the advisor and reduces student fees paid by the student.

One-credit enrollment requires a form signed by the DGS and a change that goes through payroll. Masters students register for one credit status under ENT 8333 while PhD students use ENT 8444 (note: not the ENT 8777/8888 “filler” courses above). When enrolling grading should be specified as S/N (satisfactory/not satisfactory progress). Master's students must have the form filed by the dates listed on page two. Ph.D. students must file the form each semester they register for ENT 8444. Forms are available online (OneStop).
Master of Science (M.S.)

Plan A
Students must:

- Complete an approved program of course work totaling 20 course credits.
  - Coursework must include 12 required course credits in Entomology courses. Included in the 12-credit requirement are the core Entomology courses (11 cr., see below) and Seminar (ENT 8300, 1 cr.) The graduate school requires that 2/3 of all course credits be taken A-F;
  - In addition, complete 8 elective credits. Elective credits can be from other Entomology courses or courses outside of Entomology (minor or “supporting programs”);
- Earn two points from written preliminary examinations;
- Take 10 thesis credits (ENT 8777);
- Present a thesis proposal in a public seminar (ENT 8300);
- Present a public thesis defense seminar;
- Defend the thesis in a closed final oral examination;
- Deposit voucher specimens in the departmental museum if appropriate (see The Director of the Insect Collection or The Curator of the Insect Collection for details);
- Submit the final version of the thesis to the Graduate School

Plan B
Students must:

- Complete an approved program of coursework totaling 30 course credits.
  - Coursework must include 11 required course credits in Entomology courses. Included in the 11-credit requirement are the core Entomology courses (11 cr., see below) and 1-6 credits of Special Problems in Entomology (ENT 5910). The graduate school requires that 2/3 of all course credits be taken A-F;
  - In addition, complete 13-18 elective credits. Elective credits can be from other Entomology courses or courses outside of Entomology (minor or “supporting programs”);
- Earn two points from written preliminary examinations;
- Submit 1-3 project reports (rather than a thesis) to the final examination committee (reports not necessarily presented in a public seminar);
- Pass final examination (oral)
- Submit the project reports to the Natural Resources library (optional but encouraged)

Doctor of Philosophy (Ph.D.)

Students in the Ph.D. program must:

- Complete an approved program of coursework totaling 24 course credits.
  - Coursework must include 13 course credits in Entomology courses. Included in the 13-credit requirement are the core Entomology courses (11 cr., see below) and Seminar (ENT 8300, 2 cr.). The graduate school requires that 2/3 of all course credits be taken A-F;
  - In addition, complete 11 or more elective credits. Elective credits can be from other Entomology courses or courses outside of Entomology. A maximum of 9 credits may come from the 4xxx level. If a minor is selected a student must complete 12 credits to satisfy the minor.
- Earn three points from written preliminary examinations;
- Pass an oral preliminary examination;
- Take 24 thesis credits (ENT 8888);
- Present a thesis proposal in a public seminar (ENT 8300)
- Present a non-thesis lecture as a public seminar (ENT 8300)
• Present a public dissertation defense seminar;
• Defend the dissertation in a closed final oral examination;
• Deposit voucher specimens in the departmental museum if appropriate (See The Director of the Insect Collection or The Curator of the Insect Collection for details);
• Submit the final version of the dissertation to the Graduate School.

Minor in Entomology (for M.S. or Ph.D. degrees in other programs)

• For Ph.D. students: Complete an approved program of coursework totaling 12 course credits (4xxx-8xxx level) from Entomology. The doctoral examining committee and thesis reviewers should include one member from Entomology. The minor must be declared prior to passing the preliminary oral exam and be approved by the DGS of Entomology. Student must maintain a GPA of 2.8 for the Entomology coursework.
• For M.S. Plan A and Plan B students: Complete an approved program of coursework totaling 6 course credits (4xxx-8xxx level) from Entomology. The masters examining committee and thesis reviewers should include one member from Entomology. The minor is generally declared when the Degree Plan is filed, but must be declared prior to the final examination. The minor must be approved by the DGS of Entomology. Student must maintain a GPA of 2.8 for the Entomology coursework.
# Degree Program Requirement Table

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Ph.D. ¹</th>
<th>Master’s plan A ²</th>
<th>Master’s plan B ³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entomology core: ENT 5011 (4 cr) Str &amp; Fn ENT 5021 (4 cr) Biodiv. ENT 5041 (3 cr) Ecology</td>
<td>11 credits</td>
<td>11 credits</td>
<td>11 credits</td>
</tr>
<tr>
<td>Seminar (ENT 8300)</td>
<td>2 credits: Dissertation proposal (1) Non-thesis seminar (1)</td>
<td>1 credit: Thesis proposal (1)</td>
<td>0 credits</td>
</tr>
<tr>
<td>Elective credits from Entomology, minor ⁴ or supporting programs</td>
<td>11 credits (12 credits if a minor is selected) (4xxx-8xxx level, but only 9 or fewer credits at 4000 level)</td>
<td>8 credits (4xxx-8xxx level)</td>
<td>13-18 credits (4xxx-8xxx level)</td>
</tr>
<tr>
<td>Thesis credits</td>
<td>24 credits of ENT 8888 for PhD students</td>
<td>10 credits of ENT 8777 for MS students</td>
<td>0 credits</td>
</tr>
<tr>
<td>Special Problems in ENT ⁵ (ENT 5910)</td>
<td>0 credits</td>
<td>0 credits</td>
<td>1-6 credits</td>
</tr>
<tr>
<td>Minimum GPA &amp; individual course grades for degree program courses</td>
<td>GPA: 3.0 or better Core courses: B- or better Other courses: C- or better</td>
<td>GPA: 2.8 or better Core courses: B- or better Other courses: C- or better</td>
<td>GPA: 2.8 or better Core courses: B- or better Other courses: C- or better</td>
</tr>
<tr>
<td>Advisory/examining committee (minimum)</td>
<td>3 members from Entomology; 1 member from outside</td>
<td>2 members from Entomology; 1 member from outside</td>
<td>2 members from Entomology; 1 member from outside</td>
</tr>
<tr>
<td>Graduate degree plan (submitted via GPAS system)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Prelim exams: written</td>
<td>3 points</td>
<td>2 points</td>
<td>2 points</td>
</tr>
<tr>
<td>Prelim exam: oral</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Thesis proposal seminar (see seminar credits above)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Non-thesis seminar (see seminar credits above)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Thesis defense seminar (no credits for this)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Final exam (oral)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Submit to Graduate School</td>
<td>Dissertation (referred to as thesis on some forms)</td>
<td>Thesis</td>
<td>1-3 Reports</td>
</tr>
<tr>
<td>Time limit for degree completion (may petition for an additional year)</td>
<td>8 years</td>
<td>5 years</td>
<td>5 years</td>
</tr>
</tbody>
</table>

¹ Ph.D.: Total coursework credits = 24; Total credits (coursework + thesis) = 48
² Master’s plan A: Total coursework credits = 20; Total credits (coursework + thesis) = 30
³ Master’s plan B: Total credits (coursework + Special Problems in ENT) = 30. Number of credits from Special Problems in ENT (ENT 5910) are determined by student and advisor; credits from coursework should then be adjusted accordingly to total 30 credits from coursework and Special Problems in ENT.
⁴ Credits required for minor, if elected: Ph.D. = 12, Master’s Plans A and B = 6. Credits for minor also count toward elective requirements
⁵ Special Problems in ENT credits are not required for, but can be applied to the Ph.D. and Master’s plan A.
REQUIREMENTS IN GREATER DETAIL

Core Curriculum

The intent is to assure that students in all of our degree programs know the basics of entomology. Students will satisfy this requirement by demonstrating their command of material in:

- Insect Biodiversity and Evolution  ENT 5021, 4 cr
- Insect Structure and Function  ENT 5011, 4 cr
- Insect Ecology  ENT 5041, 3 cr

Core courses may not be taken pass-fail (S/N). A passing grade will be a "B-" or better. In the event a "C+" or worse is attained, a student must either retake the class or pursue remedial study as directed by the course instructor and with the approval of your Advisory Committee. Remedial study must be completed by the end of the following semester.

Please note: It is assumed that most students will have taken at least one course in general entomology or equivalent as an undergraduate before entering the graduate program in Entomology. For this reason, Insect Biology (ENT 1005/5900) does not count toward the minimum credit requirement needed for an M.S. or Ph.D. or satisfy the core curriculum. If a student has not had an equivalent course elsewhere, he/she should attend Insect Biology (ENT 1005), but enroll in ENT 5900 (A-F) to obtain graduate credit for Insect Biology. See the instructor of ENT 1005 for details.

Transferring Credits and Waiving Requirements

Approved graduate course credits may be counted in common between a Ph.D. and M.S. degree in the Entomology Graduate Program at the University of Minnesota. In otherwords, Ph.D. students having completed a M.S. program in Entomology at the University of Minnesota are required take an additional amount of coursework necessary to increase the number of credits from the M.S. degree to that of the Ph.D. requirement. For example, if a student received an M.S. from our program and then pursues a Ph.D. in our program, that Ph.D. student would have already fulfilled the core requirement and would need 3 additional elective credits. However, under this situation, M.S. (plan A) thesis credits (ENT8777) cannot apply to the Ph.D. thesis credit requirement.

The basic rules for transferring credits from other Institutions are outlined in the Graduate School Catalog (https://www.grad.umn.edu/). In brief, the Graduate School states that courses taken before the awarding of a baccalaureate degree cannot be transferred, Master's degree students are required to complete at least 60% of the coursework for their degree (excluding thesis credits) as registered University of Minnesota Graduate School students, and Ph.D. degree students are required to complete at least 12 of the 24 coursework credits for their degree (excluding thesis credits) as registered University of Minnesota Graduate School students. However, a student may be allowed to waive a required course by obtaining certification from the appropriate instructor that he or she has taken an
equivalent course elsewhere or knows the material through experience or independent study. Such certification must be in writing and addressed to the Director of Graduate Studies. The number of courses and credits that can be transferred or waived to complete a Masters or Ph.D. degree will be considered on a case-by-case basis for each student, and must be approved by the student's advisor and the Director of Graduate Studies. See the GPC with questions.

Minimum Grade Point Average

The Graduate School sets a minimum grade point average (GPA) of 2.80 for Master’s degrees and 3.00 for PhD for all courses listed on the official degree plan. Furthermore, all grades must be a C- or better, except the Department requires grades of a B- or better for core courses. If a student’s GPA falls below 3.0, a letter to the student and the major advisor will be sent and continuation in the program will be determined by the Student Advisory Committee.

Oral Seminars

The intent is to develop and evaluate oral communication skills and to help students learn how to review and summarize literature. Students will satisfy this requirement by presenting one (M.S.) or two (Ph.D.) public seminars prior to their thesis defense seminar for one credit each through ENT 8300. The seminars will be evaluated "S/N." Seminars must be presented before the final oral examination can be scheduled. Ph.D. students will not receive credit for a thesis proposal seminar that reflects work for a previous M.S. degree. Ph.D. students having completed a M.S. program in Entomology at the University of Minnesota are required to present 2 additional seminars. One seminar will be a research proposal, and this is a requirement both for M.S. and Ph.D. students. The other is only required for Ph.D. students and may be a review of literature on a subject outside the student's specialty area. The topic of the second seminar should be agreed upon by the student, advisor (and/or Student Advisory Committee), and the instructor of ENT 8300. If a student enters the M.S. program and later switches to a Ph.D. program after giving a research proposal seminar, the second seminar may be a new research proposal seminar if the research direction has changed substantially.

Written Preliminary Examinations

The intent is to develop and evaluate constructively each student's critical thinking and writing skills.

Component Questions

To satisfy the written prelim requirement, a student must pass a required number of "Questions" according to the degree being sought. Multiple questions will be offered every year. Students must take a minimum of three questions per year until obtaining the required number of passes. The number of accumulated points will be tracked by the Written Prelim coordinator and the Graduate Program Coordinator. Number of passes and time allowed are as follows:

<table>
<thead>
<tr>
<th>Degree Program</th>
<th>Previous Degree</th>
<th>Points Required</th>
<th>Max. Yrs. Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.</td>
<td>B.A. or M.S. from other field or institution</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Because there is no penalty for failures, students should take as many questions as possible during their residence to improve their writing skills. The maximum number of years allowed is ample for all students to pass, regardless of native language. Not accumulating the required number of points in the allotted time is grounds for dismissal from the program.

Mechanics

The Director of Graduate Studies with consensus of the Graduate Faculty will appoint a Prelim Coordinator whose job will be to assign members of the multiple exam committees for each calendar year. Committees consist of two to four faculty members with a designated chair. Several times per year, the corresponding committees will compile background readings, write a question, and present them to the Prelim Coordinator. The Prelim Coordinator will place the readings on CANVAS and publicize the date for each question. Readings will not exceed 200 pages of background material and will be posted one month in advance of the examination date.

Each question, drawing upon the background material, will require synthesis of ideas and/or integration to solve a problem. Questions can be open or closed book at the discretion of the exam committee.

Discussion of the reading material before the question is presented is encouraged, but each student is expected to write his or her own answer on the day of the examination. Answers must be submitted as a Word document. Students are allowed at least 24 hours to turn in their answers. Answers may not exceed 1000 words in length. New students are encouraged to discuss the general expectations with their advisory committee and senior students who have completed this component of their degree programs.

The Prelim Coordinator makes exam questions available to all interested students on the examination date and then receives the students’ answers the following day. Students who elect not to answer the exam simply need not turn in an answer. Student essays will be coded and then passed to the exam committee for “blind” evaluation; i.e., readers will not know who wrote a given answer. Blind grading assures that evaluations are based on what was written, and not on knowledge of who wrote it.

Grading and Evaluation

There are four grading options:

A. Full credit, no revision necessary (1 point earned)

B. Half-credit (1/2 point) with potential to receive full credit (1 point) if minor revision is acceptable. No credit (0 points) may be given if revision is not submitted.

C. No credit (0 points) with potential to receive half credit (1/2 point) if major revision is acceptable. No credit (0 points) may be given if revision remains unacceptable or is not submitted.
D. NR. Answer unacceptable for reasons outlined. No points given, no rewrite allowed.

Answers will be graded by all committee members, but each student will be issued a single, consensus grade. Primary emphasis will be on critical thinking and writing ability. Examiners will use an evaluation form to structure their evaluation and comments. Once graded, the committee will return answers to the Prelim Coordinator with comments from the committee. In turn, the Prelim Coordinator will decode the names and return answers with comments to students.

Revisions

Students are strongly encouraged to consult with committee members in person to ensure that the comments made by each member are understood by the student. Students must not discuss their answers with members of the department other than the examining committee. Revisions should be resubmitted within two weeks of receipt of committee comments on the first answer.

Transfers between Programs

Students who petition from one program into another will be allowed to carry their passes into the new program. Thus, an M.S. student who has passed one or two questions might elect to petition directly into the Ph.D. program without earning an M.S. In this case, the passes would be credited toward the required three for the Ph.D.

Oral Preliminary Examinations

*The purposes are to evaluate comprehensively a student's perspective, thinking ability, and knowledge of core and specialty subjects.*

The oral examination is only required for Ph.D. students and the format of this exam will follow Graduate School guidelines (follow links from https://www.grad.umn.edu/current-students-graduate-student-services-progress-doctoral/doctoral-committees). The exam will take no more than three hours. It will be conducted by a committee of at least four examiners, consisting of the Student Advisory Committee from within Entomology plus one graduate faculty from a minor or supporting program. The exam can be taken only after the written prelim has been passed. The student will be expected to answer both general and specific questions. The oral prelim must be passed before the final examination can be scheduled.

Thesis Defense and Final Oral Examinations

The purpose is to evaluate the student's understanding of research and supporting knowledge. This requirement is set by the Graduate School and the exam follows their guidelines. Consult the Graduate School Catalog (https://www.grad.umn.edu) for more specific details on the forms that must be on file in the Graduate School before the exam may be taken.

Students in the Ph.D. and M.S. Plan A programs must present their thesis in a public seminar. The seminar should be advertised in the department at least one week in advance (see the GPC for specifics). The final oral exam will be conducted immediately thereafter. Students in M.S. Plan B are not required to present project reports in a seminar, but may do so if they wish. M.S. Plan B students will have a final exam (oral).
The final oral exam can be scheduled with the Graduate School when the reviewing members of the Advisory Committee certify that the thesis or project reports are ready for defense. All members must be given at least two weeks to read the thesis or project reports before the final oral exam can be scheduled.

The major advisor may not chair the final oral exam committee for a Ph.D. candidate.

**Voucher Specimens**

These specimens permit the scientific community to evaluate insect identifications and to assess other preservable aspects of the material on which the student's research was based. Representative vouchers of relevant subjects studied for M.S. theses or projects (Plan A or B) and Ph.D. dissertations must be deposited in the insect museum, 311 Hodson Hall. Vouchers should be deposited according to established procedures (*Bull. Entomol. Soc. Am.* 21: 157-9, ibid 24: 141-2, ibid 30: 8-11). The museum will maintain the specimens indefinitely. See the Curator of the Insect Collection or The Director of the Insect Collection, for labeling and deposition procedures.

Reference to the number of specimens, their life history stage(s), sex and institution where deposited should appear in the "Materials and Methods" section of the thesis or dissertation and in any subsequent publications derived from the research.

In some cases, voucher specimens may not be required. Waiver of the voucher requirement may be obtained from the Director of the Museum.

**Ethics Training**

Ethics training may be required for some graduate students depending on funding source. For example, students working on projects funded by NSF, NIH or USDA-NIFA need to complete an approved ethics training...

https://research.umn.edu/units/rco/training-education/nsf-usda-nifa-nih-training
https://drive.google.com/file/d/0Bw3yHuGQzD8Cc2M1QzJ2XzFkTEE/view

Students should discuss the potential need for ethics training with their advisors.

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**Chapter 5**

**STUDENT’S ADVISORY COMMITTEE**

An Advisory Committee (AC) must be established by each student during the first two semesters. The AC helps the student define a research area, select appropriate courses, acquire technical skills, and serves as a sounding board for ideas or problems - all at the student's request. Members of this committee conduct the oral prelim, read the thesis or project reports, and conduct the final oral exam.

**MEMBERS**
For M.S. students (both plans), the AC at minimum will consist of two members from the Department of Entomology (the major advisor, and one other faculty member) plus one member from outside Entomology (total of 3 members). For Ph.D. students, the AC will at minimum consist of three members from the Department of Entomology (the major advisor and two other faculty members) plus one member outside Entomology (total of 4 members). For students with one or more co-advisors from Entomology, each co-advisor counts toward the total required number of Entomology members. Inclusion of additional member(s) is left to mutual consent of student and major advisor.

Outside members of the AC are defined as not having their tenure home in Entomology. Usually outside members have no formal affiliation with Entomology, but members of the Entomology Graduate Faculty that have their tenure home outside of Entomology can be considered outside members of the AC committee. Faculty members with their tenure home in Entomology that have graduate faculty status in other departments cannot be used as outside members. Outside members can be recruited from outside of the University but must be approved by the College in a process that is initiated by the advisor and the DGS.

The Director of Graduate Studies is responsible for seeing that all students have ACs. Members of the AC may change during the student's first three semesters as the student's research direction develops. However, all changes should be final by end of the third semester, excluding summer. Substitutions may be necessary because of sabbatical leaves, retirements, or emergencies.

To form or make changes to the advisory committee the student must initiate the WorkflowGen process for advisor, GPC and DGS approval:

*For Ph.D. use [http://www.grad.umn.edu/students/doctoral/index.html](http://www.grad.umn.edu/students/doctoral/index.html).

*For M.S. use [http://www.grad.umn.edu/students/masters/index.html](http://www.grad.umn.edu/students/masters/index.html) and choose Plan A or Plan B.

**FUNCTIONS**

**For M.S. students**

The AC will meet with the student during the first year, preferably during the first semester, to discuss the student's background and career goals. A provisional course list will be assembled to satisfy the Graduate School and department's requirements, including courses in related fields. The student's Graduate Degree Plan should be filed by the student at the end of the student's first year in residence in the Graduate Planning & Audit System (GPAS) [https://onestop.umn.edu/academics/gpas](https://onestop.umn.edu/academics/gpas).

**For Ph.D. students**

The AC's first official function is to convene an informal meeting, preferably within the student's first year of residence. The purpose of the meeting will be to discuss the student's background and career goals, and to explore possible research topics. Working together, the student and committee should produce a provisional course list for the student's Graduate Degree Plan. The selected courses should fit the student's background and interest, and also satisfy requirements for content and credits, both inside and outside the department, as set by the department and by the Graduate School. The AC's next function will be to help the student finalize the Graduate Degree Plan in the Graduate Planning & Audit System (GPAS). This should be accomplished by the end of the 4th semester in residence.
After the written prelim has been passed, the AC's next function will be to serve on the Graduate School's oral prelim examination committee. The final two official functions of the AC will be to serve as thesis readers and to administer the final oral examination. Someone other than the student's major advisor must chair the final oral exam committee.

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**Chapter 6**

**EXAMPLE SCHEDULE OF PROGRESS-M.S.**

**M.S. PLAN A**

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Suggested Courses (credits*)</th>
<th>Milestones</th>
</tr>
</thead>
</table>
| 1    | Fall     | ENT 1005/5900 Insect Biology (3), *if required*  
      |          | ENT 5021 Insect Biodiversity & Evolution (4)  
      |          | and/or  
      |          | ENT 5041 Insect Ecology (3)  
      |          | Elective courses;  
      |          | ENT 8777 (fill to 14 cr/semester*) | • Written Prelim Exam questions taken (2 points required)  
                                |          | • Advisory Committee chosen |
| 1    | Spring   | ENT 5011 Insect Structure & Function (4)  
      |          | ENT 8300 Graduate Seminar (1), research proposal  
      |          | Elective courses  
      |          | ENT 8777 (fill to 14 cr/semester*) | • Written Prelim Exam questions taken  
                                |          | • Meet with Advisory Committee  
                                |          | • Present pre-thesis seminar |
| 2    | Fall     | ENT 5041 Insect Ecology (3)  
      |          | and/or  
      |          | ENT 5021 Insect Biodiversity & Evolution (4)  
      |          | Elective courses  
      |          | ENT 8777 (if needed to 14 cr/semester*) | • Written Prelim Exam questions taken, if needed (2 points required)  
<pre><code>                            |          | • File an official Graduate Degree Plan (GPAS) |
</code></pre>
<table>
<thead>
<tr>
<th>2</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective courses</td>
<td></td>
</tr>
<tr>
<td>ENT 8777 (if needed to 14 cr/semester*)</td>
<td></td>
</tr>
</tbody>
</table>

* If supported on an RA, register for ENT 8777 to a maximum of 14 credits per semester

**One-credit status is available if all degree coursework has been completed, the oral exam has been passed and 10 ENT 8777 credits have been completed. The Application for Advanced Masters Status form has to be turned in to the DGS every semester for which this status is applicable.
Master's Degree (Plans A or B)

A recommended schedule of progress excludes summers. Omitted is discussion of a research schedule, which will vary substantially from student to student. In most cases, research begins in the first year and continues throughout a student's residence. Core courses, written prelims and required credits for either Plan A or B should be completed in 4 or 5 semesters. Research progress will be the largest variable in completing an M.S. degree program. The following is presented as guidelines for normal progression through the M.S. degree program (Plan A or B).

1. Attempt at least one written exam question per semester until the required number of points (two for both plans) is accumulated.
2. By end of 2nd semester: Establish and consult with an advisory committee (AC); use WorkflowGen to establish the committee. Discuss potential coursework and avenues of research that will meet educational objectives. Complete pre-proposal seminar.
3. By end of 3rd semester: Finish written exam questions and file an official Graduate Degree Plan with the College via GPAS. This program will list all courses to be taken, names of members of oral examination committee, and thesis title or project titles. Applicable forms can be downloaded by following links from:

   http://www.grad.umn.edu/students/masters/index.html.

   Complete coursework if possible

4. During the 4th semester: Complete courses in Entomology (if needed). Also:
5. Register a thesis or project title page with the Graduate School at least two weeks prior to the date of the final oral examination.
6. Have the thesis or projects read by the final examination committee. Following their approval, file a Thesis (or project) Reviewer's Report with the Graduate School.
7. If Plan A, present a departmental seminar on the thesis research and then pass the final oral examination scheduled immediately after the seminar. Plan B students need only schedule and pass a final oral or written exam.

   Although the final exam will focus on the thesis or projects, it may cover any relevant fundamental work. The exam should be scheduled with the Graduate School no less than a week after the reviewers' report is filed. The Final Examination Report must be filed with the Graduate School by the last working day of the month of graduation.
8. Deposit voucher specimens, if appropriate, in the departmental museum.
9. File copies of the thesis (Plan A only) with the Graduate School no less than one month prior to intended month of graduation.
### Example Schedule of Progress – Ph.D.

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Suggested Courses (credits*)</th>
<th>Milestones</th>
</tr>
</thead>
</table>
| 1    | Fall     | ENT 1005/5900 Insect Biology (3), *if required*  
ENT 5021 Insect Biodiversity & Evolution (4)  
and/or  
ENT 5041 Insect Ecology (3)  
Elective courses  
ENT 8888 (fill to 14 cr/semester*) | • Written Prelim Exam question taken (3 points required)  
• 24 ENT 8888 required |
| 1    | Spring   | ENT 5011 Insect Structure & Function  
ENT 8300 Graduate Seminar (1), research proposal  
Elective courses  
ENT 8888 (fill to 14 cr/semester*) | • Written Prelim Exam question taken  
• Advisory Committee chosen |
| 2    | Fall     | ENT 5041 Insect Ecology (3)  
and/or  
ENT 5021 Insect Biodiversity & Evolution (4)  
Elective courses  
ENT 8888 (fill to 14 cr/semester*) | • Written Prelim Exam questions taken, if needed (3 points required)  
• Meet with Advisory Committee |
| 2    | Spring   | ENT 8300 Graduate Seminar (1), literature review  
Elective courses  
ENT 8888 (fill to 14 cr/semester*) | • File an official Graduate Degree Plan (GPAS) with College |
| 3    | Fall     | Elective courses  
ENT 8888 (fill to 14 cr/semester*) as needed. | • Schedule Prelim Oral  
• File Oral Preliminary Exam Report at Grad School |
| 3    | Spring   | Elective courses  
ENT 8888 (fill to 14 cr/semester*) as needed. | • Thesis Proposal Form filed with Graduate School |
| 4    | Fall     | *Note: If all credit and course requirements are complete, student may register for ENT 8444 Advanced PhD One-Credit Status** | • Schedule Final Oral Defense |
| 4    | Spring   | *Note: If all credit and course requirements are complete, student may register for ENT 8444 Advanced PhD One-Credit Status** | • Deposit voucher specimens  
• Graduation |

*If supported on an RA, register for ENT 8888 to a maximum of 14 credits per semester  
**One-credit status is available if all degree coursework has been completed, the oral exam has been passed and 24 ENT 8888 credits have been completed.
Ph.D. Degree

Not counting summers, a recommended schedule for all students is as follows:

1. Attempt at least one written exam question per semester until the required number of points is obtained.
2. During the 3rd semester: Establish the Advisory committee via WorkflowGen and consult with the Committee by the end of the semester. Discuss potential coursework and avenues of research that would meet educational objectives.
3. By end of 3rd semester, or at least two semesters before the preliminary oral examination, file an official Graduate Degree Plan (GPAS) with the College. This form will list all coursework to be taken, including at least 12 credits outside Entomology, 24 dissertation credits (ENT 8888).
4. During 4th semester: Present Pre-thesis seminar (and earn one credit of ENT 8300).
5. Present the non-thesis seminar (and earn the second credit of ENT 8300).
7. Have the draft thesis read by 2 reviewers designated from the final examination committee, and following their approval, file a Thesis Reviewer's Report with the Graduate School. The readers must have at least two weeks to review the thesis before the final oral exam can be scheduled.
8. Present a departmental seminar on the thesis research, and then pass the final oral examination to be scheduled immediately after the seminar. Although the final exam will focus on the thesis, it may include any related fundamental work. The exam should be scheduled with the Graduate School no less than one week after the reviewer's report has been filed.
9. Deposit voucher specimens in the departmental museum.
10. File copies of the thesis with the Graduate School during the month of graduation.

Maintaining Active Status

As mentioned in Chapter 3, all graduate students are required to register in the Graduate School every fall and spring term to maintain Active Status, which allows them to register for courses, take exams, submit milestone forms, file for graduation, or otherwise participate in the University community as a graduate student.

The University of Minnesota institutes a five year time limit for MS students and an eight year limit for PhD students. On rare occasions where a student needs to maintain Active Status (progressing toward an eventual degree within the time limit) but takes a leave of absence, the student may register for Grad 999.

Grad 999 is a free, zero-credit, non-graded registration mechanism that meets the Graduate School's registration requirement to maintain Active Status. Grad 999 cannot be used to meet registration requirements established by departments/agencies within or outside of the University (which include, but are not limited to, registration required to hold an assistantship, maintain legal visa status, obtain financial aid, or defer loans). Students may register for up to 4 semesters for ENT 999 while working on a thesis or Plan B project. A hold will be placed on the student’s registration after 4 semesters of ENT 999 (see DGS or GPC for details). Approval for students to register for more than 4 semesters of ENT 999 may be granted by the DGS after the DGS and the student’s advisor discuss the student’s situation, what options/alternatives exist, and determination of a potential path for completion of the degree.
**Student Progress Report**

The Graduate School and CFANS mandates an annual review of each graduate student to occur at least once per academic year. This evaluation process is to help you make timely progress toward your degree, and to ensure that your tenure as a graduate student in our department is productive and proceeds as smoothly as possible.

This is a process designed to help you, your advisor, and department track your progress through the degree program. The DGS will notify you when updates are needed, typically during the spring semester.

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**Chapter 7**

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**DEPARTMENTAL OPERATIONS**

**Roles of Graduate Assistants** Graduate education should develop teaching and research skills. Accordingly, financial aid is available as research assistantships to students who perform essential roles in the research programs in Entomology.

**Responsibilities of Graduate Assistants** Graduate assistants aid the department's teaching and research programs and gain practical experience as well as financial aid. The association between a faculty member and assistant should be a productive team effort. Interest, orientation, dedication, and hard work will be required of both parties. The assistant is a staff member within the department and should take pride in the welfare of the program as well as his or her specific tasks.

**Research Assistants**

Research assistants (RAs) function in a great variety of ways, in part because of different funding and grant arrangements, but also because of different philosophies of advisors. In most cases, the RA is viewed as a member of a team, having an individual assignment that is a component of an overall research program. This assignment usually is the student's thesis research.

Before embarking on independent research, the RA and advisor will discuss and outline the justification, logic, objectives, expected performance, methods of analysis, and relationship to the entire project. The student and advisor should be consulting with other AC members, too.

**Stipends and Pay Schedules** Students on research assistantships and fellowships must fill out all employment paperwork before being placed on payroll. Stipends are issued every two weeks, most commonly through direct deposit to the bank account on file. For details, see the department's office personnel.
**Teaching Assistants** Paid teaching assistantships are not offered in Entomology. However, graduate students in Entomology can serve as voluntary teaching assistants (TA) or do so for credit (ENT 8006). For individuals interested in pursuing careers in teaching, extension, or outreach, serving as a teaching assistant (TA) provides an opportunity to develop skills used in effective teaching and is an excellent gateway to other teaching opportunities. The faculty leading the course can provide constructive feedback to help the TA develop as an instructor. TAs may also elect to solicit feedback from students during the course and use these evaluations in constructing their teaching portfolio.

Teaching assistants (TAs) are an important part of a course’s instructor team. In most cases, TAs answer student questions and assist in the execution of lab activities, such as preparation and maintenance of class materials and collections. TAs often assist with grading, but may participate in course delivery more extensively through design and delivery of an individual lab activity or guest lecture, or assist with syllabus design. Many TAs hold weekly office hours and/or review sessions. All potential duties and time expectations should be discussed and agreed upon by the TA, the course instructors, and the TA’s advisor before the course begins.

TAs who are not native English speakers must meet the University's Language Proficiency Requirement. Full details on this requirement can be found on the web at [http://policy.umn.edu/policies/hr/performance/language.html](http://policy.umn.edu/policies/hr/performance/language.html).

The UMN Center for Educational Innovation (CEI) provides a wealth of resources for TAs, including free seminars, workshops, and consultation services. The CEI also organizes the Preparing Future Faculty program, as well as other programs for students who wish to further develop their teaching toolkits beyond serving as a TA. More information about these resources can be found on the CEI website (https://cei.umn.edu).

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**Chapter 8**

**GRADUATE PROGRAM RESOURCES**

**Frenatae**

Frenatae is the entomology graduate student organization. It meets as needed to discuss department matters of interest to students, to elect representatives to voting bodies inside and outside the department, and to mentor new students. Frenatae also sponsors fund-raisers and informal social events.

**International Student Services**

International students need to stay abreast of changes in registration requirements to maintain legal visa status. Questions regarding such requirements should be directed to staff at the International Student and Scholar Services (ISSS) see: [http://www.isss.umn.edu/](http://www.isss.umn.edu/).

**Sources of Departmental Information**
Every fall, the DGS will host an Orientation for new (and returning) students in Entomology. This meeting is intended to welcome students and help them become acquainted with department resources, personnel, and degree requirements.

The GPC will ensure that the student's name and email address is added to the department graduate student listserv to ensure all students receive announcements about important events. Students should also seek out the department's seminars, and bulletin boards.

The Entomology Newsletter is issued annually and contains feature articles; news about faculty, staff, students and alumni; occasional book reviews; regular seminar notices; job announcements; and the usual collection of twisted entomological humor. The newsletter is edited by a group of volunteer students, staff, and faculty. Contributions are welcome.

Seminars in Entomology come in two kinds. The department's seminar committee organizes weekly seminars on Tuesday afternoons during the academic year. Special seminars are scheduled irregularly for visiting scientists from outside the department and as part of graduate students' final thesis defense. All department members are expected to attend.

The departmental bulletin board is on the left wall in the entry to the department office.

**Services in the Office**

**Class Schedule**

Students must be registered continuously while working for degree programs. When registered, the department is covered for insurance purposes and is credited for student supervision and use of facilities. Students on assistantships must be registered during their appointments. Registration materials are online at: [http://www.onestop.umn.edu/](http://www.onestop.umn.edu/).

**Space for Graduate Students**

Graduate students may be housed at a desk in their advisor’s lab and/or have space in either the ‘refuge’ underneath the library or in a room on the 4th floor of Alderman Hall. See the Administrator or Department Head for space assignments.

**Duplicating Services**

The departmental photocopiers are available for student use during regular office hours. However, office staff has first priority on these machines. Please limit the copying of long documents to early morning or late afternoon. Log in electronically to use the machine. Each student's advisor has the correct code for copying. Photocopies at a higher price per page are also available from machines in the Natural Resources library, the McGrath library, and the Student Center. Large jobs will be cheapest at commercial copy services off campus. Talk to office staff about these services.
Keys

See the Receptionist in 219 Hodson to get card access to the building and keys to hallways and labs. Following payment of a $20 (refundable) key deposit, the receptionist will issue keys to the building, to teaching rooms, and to the advisor's research lab with advisor permission via email. For security, never admit strangers into the building or locked rooms after business hours. To prevent theft, lock labs, offices and desks when unattended. Do not leave wallets or purses unattended, even in locked drawers! Hallway doors should be locked and remain locked after 4:30 p.m. and on weekends. Keys must be returned to the Front Office before graduating and leaving the department; otherwise, a hold will be placed on a student's records.

Mail

Each graduate student is given a mail box on the second floor in the kitchen area. Check regularly for mail and messages. Students on assistantships should inform advisors and secretaries of plans to be absent from campus for an extended period of time, especially if the mail box should be checked for any urgent items. Please leave a forwarding address with the receptionist when leaving the department for an extended period of time.

Due to the increasing frequency of identity theft, we strongly discourage students from using the department as their home mailing address. The mailboxes are not in a secure location, so everyone has access to them. In addition, the department needs to know each student's current address/phone number in case we need to contact anyone in an emergency. Students are able to completely suppress their directory information (i.e. it won't be published on-line or in the University's directory) and addresses can be updated in Onestop (http://www.onestop.umn.edu/) so we encourage students to keep their addresses current.

Mailing Address

The department's full mailing address is:

Department of Entomology
University of Minnesota
219 Hodson Hall
1980 Folwell Ave
St Paul, MN 55108

If correspondents need a shorter address, please make sure they keep the street address, otherwise mail may be returned to the sender or delayed several days as all University mail without a street address is sent to the central campus mail address and sorted there. An acceptable abbreviated address is:

U of MN Entomology
1980 Folwell Ave, Room 219
St Paul, MN 55108

Electronic Mail

Computer and Information Services provide free email accounts to all university faculty, staff, and students registered in a degree program. See the office staff for questions about email or call the email
help line at 1-HELP (612-301-4957). Another good source for information on setting up computer and e-mail programs to access the internet is the Office of Information Technology (OIT) website at http://www.oit.umn.edu/. University-sponsored orientation classes are scheduled throughout the year and can information can be found on the OIT web site, by checking the Minnesota Daily or calling the help line.

Email lists
The department has e-mail lists to distribute announcements in a timely manner to all or part of the department. These are restricted-post lists, only people on an ‘approved post’ list are allowed to send e-mail to them. When given an e-mail address, please give it to the office staff to be added to the lists. After being added to the list, if more than three weeks has elapsed without receiving an email with a subject line starting with [ento-all@umn.edu] or [ent-gr@umn.edu], let the office staff know so they can make sure that the e-mail address on the list is correct.

Ordering Supplies
There are a variety of ways to order research supplies, such as UMarket, purchase orders, or with a University-issued purchasing card. Forms for ordering supplies with a purchase order are available from the accounting staff (entopurchasing@umn.edu). All requests must include correct account numbers, must be approved by the PI in charge of the project, and must then be submitted to accounting for processing. Quick or emergency purchase orders up to $2000 can be arranged, see entopurchasing@umn.edu for procedures.

Phones
Phones in research labs may be used for local calls. When calling another university number from a campus phone, only the last five digits of the phone number need to be dialed. Laboratory phones should not be used for extended personal or other unofficial business, for long distance calls, or for requests for directory assistance. Advisors have instructions on making long distance calls using University Personal Access Code (UPAC). Please, do not use the phones in the department office. The student's advisor or project leader should be consulted if long distance phone calls are required for official business.

Stationery
Official department stationery may be used for university business only. Anything sent out on letterhead should be neat, professional, and reflect well on the department. If stationery is needed it may be obtained from the office staff.

Buildings and Facilities
Branch Stations
Facilities for field research on University property are available on the St. Paul Campus and at the six Research and Outreach Centers (ROCs). The ROCs are located at Rosemount and Waseca to the south, Lamberton to the southwest, Morris to the west, Crookston to the northwest and Grand Rapids to the north of the Twin Cities. Use of land or facilities must be arranged in advance as land use and plot charges will be levied. Additional facilities may be available at the Landscape Arboretum, Becker, Staples, and Cloquet.

Greenhouse Space and Facilities
Greenhouses on the St. Paul campus are centrally operated. A monthly bench space fee based on the
square footage used is assessed to the faculty member. A CUFS number is required to reserve and use greenhouse space. All supplies (pots, soil, fertilizer, week-end watering) are covered in the monthly bench space fee. Contact the greenhouse staff for more information (https://www.maes.umn.edu/faculty-researchers/plant-growth-facilities/contacts).

**Insect Museum**
The department has an excellent insect collection that is available for study in Room 311. See the Director, the Curator or Assistant Curator for access to specimens or help is needed with identification, distribution, or taxonomy.

**Bee Lab**
The department has Bee Research Facility, located on 1634 Gortner, close to Hodson Hall. Two faculty members, students and staff related to their programs are housed in this facility. Conference room space in the Bee Lab can be reserved through office staff. Use of other spaces or equipment in the lab (e.g., wood shop, molecular biology bench space) may be available upon request to Dr. Spivak.

**Library**
Graduate students in the department may use the Natural Resources library during scheduled hours. These are posted by the entrance. See the library staff for an introduction to the many services available through the U's library system.

**Parking**
Daily parking is available on the Fairgrounds and the Earle Brown Center parking lots. A 30-minute permit, available in the department office, is required to park at the Hodson Hall loading dock. Hourly parking meters are located in front of Hodson Hall on Folwell Avenue and in other areas of the St. Paul campus. Parking violations with University vehicles are the responsibility of the driver no matter what the cause.

**Recycling**
The University's recycling program facilitates recycling of office paper, newspaper, cans, bottles, packing material, and cardboard. Recycling bins are liberally distributed on all floors, offices, labs, and restrooms. We encourage recycling. We often communicate with faculty and students by posting notices rather than duplicating and distributing individual messages. Check bulletin boards, E-mail, and the office counter top regularly. Help conserve electricity by turning off lights in rooms when not in use.

**Research and Teaching Equipment**

**Autoclave**
One is in Room 540. See Tim Kurtti or Uli Munderloh in 522 or 520 Hodson for permission and instructions. A second smaller autoclave is in room 431. See Ann Fallon in 420 Hodson or one of her staff, in 441 Hodson.

**Darkroom**
Room 509 is maintained as a darkroom.

**Computers**
Although computers may be located in individual labs, much of this equipment is shared on an as-needed basis. Please verify use of such computers with faculty or appropriate staff.
Equipment Loans
Many items of equipment, large and small, are shared among research projects in the department. To preserve this sharing atmosphere, please obtain permission to move or use equipment not belonging to a student's research project. If work requires that a student take inventoried items out of Hodson hall, please notify the office staff. Inventoried items will have an inventory sticker somewhere on the outside.

Digital Projectors
Classrooms and the entomology conferences room (224 Hodson) are equipped with digital projectors. The department also owns two portable digital projectors. See the office staff to check them out. Please note that use for instruction has priority.

Department Printer/Copier/Fax machine
The department has a multipurpose printer in room 219 that can be used by anyone in the department. Because it is the primary printer for some of the office staff, long print jobs should be sent to the printer after normal work hours. If you need to print your thesis, please check with your advisor on the appropriate way to do so.

To connect to the department printer on your computer, please see the instructions here:

PC: [https://it.umn.edu/printers-install-printer-windows-using](https://it.umn.edu/printers-install-printer-windows-using)

Mac: [https://it.umn.edu/printers-install-network-printer-mac](https://it.umn.edu/printers-install-network-printer-mac)

The printer name is: CFANS-HodsonH-219-Canon5550c

To Print:
After you select ‘Print’ a box will pop up:

![Print pop-up window](image)

Leave the ‘Pin’ blank, and enter your copy code under ‘Department Number’. Please see your advisor for a copy code.
Printing Services does offer both black and white and color network printing. See their website at http://www.printing.umn.edu/home.htm for details.

To make copies:

Place your document face up on the top of the printer. Log in with your copy code. Select Copy. Choose the number of copies you’d like, and any other customizations, and press the Start button.

To scan/email a PDF:

Place your document face up on the top of the printer. Log in with your copy code. Choose Scan/Fax. Select your name from the screen, or enter your e-mail manually by selecting Direct Input and then e-mail. Type your e-mail and press OK. Press the Start button.

To Fax:

Place your document face up on the top of the printer. Log in with your copy code. Choose Scan/Fax. Select Direct Input from the menu on the left, and then Fax. Type in the recipient’s fax number. (Dial 8 for outside the University, just like you would on a phone. In-University faxes, dial only the last 5 numbers. Example: 5-5299)

When a fax is received, it will be either put in a tray next to the fax machine or put in a mailbox. Please tell anyone sending faxes to you to put your name on it, otherwise it may get lost.
Travel and Vehicles

Travel Authorization and Expense Vouchers

If an advisor requests field work outside the metropolitan area, a student will be reimbursed for living expenses. Travel for field work into adjacent states requires prior submission of a Travel Authorization. The forms are electronic and blank forms can be sent to your e-mail address.

Occasionally, a vehicle can be provided for student travel as a group to meetings outside of Minnesota.

A Travel Expense Voucher must be submitted no later than 60 days after returning, and should reflect actual costs of travel, meals, lodging, and so forth. Turn in receipts for all expenses except meals. See the office staff for necessary expense account forms and more details.

If you are driving a University Fleet vehicle, ensure that your driver’s license has been added to the Fleet database. Please see office staff for help doing so. The University maintains insurance on its own vehicles, not through an outside vendor, so listing your license ensures that you are covered in the event of an accident.

https://policy.umn.edu/finance/travel

Data, Publications, and Patents

The Statistical Consulting Service

Original Data

Persons involved in departmentally sponsored research are required to leave copies of raw data, maps, and analyses with the project supervisor at the time of departure from the project. In cases where sponsoring agencies require original data, suitable arrangements must be agreed upon by the student, advisor, and agency before the work is to begin.

Patents

University employees may be asked to sign a Patent Policy and Invention Agreement. The agreement applies to any individual holding a university appointment while engaged in any research that uses university resources. If any work actually results in an invention, then the agreement assures the inventor that the university will pursue a patent, will license rights to market the invention, and will return financial rewards to the inventor, to the department, and to the university.

Publications

All manuscripts based on research conducted while in the department should be published with "Department of Entomology, University of Minnesota" listed as the researcher's affiliation. This affiliation gives credit to the institution that supported the work. The same applies even if a student
collected data here but later analyzes and publishes it from elsewhere. In this case, it is ethical to list the department as the primary affiliation and indicate a current address in a footnote.

Before submitting a manuscript for any kind for publication, it must be reviewed by the faculty member who directed, supervised or permitted the research.

Graduate and undergraduate students at the University of Minnesota can get help with all statistical aspects of research, from study design to analysis and interpretation of results. There is typically a charge for this service. More information can be found at http://www.stat.umn.edu/consulting/

Chapter 9

Fostering a Positive and Equitable Workplace

Grievances

Any grievance arising during graduate study should try to be resolved first through consultation directly with the advisor. Alternatively a student may elect to discuss the issue with their Advisory Committee, the DGS and/or the Department Head. Should a matter not be resolved, a student or faculty member may refer the issue to the Departmental Reconciliation Committee

Departmental Reconciliation Committee

Purpose: To provide a departmental process for confidential problem solving when conflicts arise among students and advisors.

Committee membership: Senior faculty (3) will be appointed for 3 year terms (staggered) by the DGS in consultation with the graduate students and department head. An alternate graduate faculty member will be available in case of conflict of interest.

Process:

Stage 1. Problem arises

Advisor or student approaches a committee member for advice. If necessary, entire committee will consult with the person. Every attempt is made to work out the situation verbally and confidentially. Nothing is written. It is expected that in nearly all cases, the problem will be resolved at this stage.

Stage 2. Problem persists

After unsuccessful attempts at problem solving, the committee, advisor or student will decide to enter this documentation phase. At this stage, the problem is kept confidential among the committee members, advisor and student.
The committee will be responsible for articulating the specific issues and remedies. Both student and advisor will have the opportunity to comment on the proposed remedies. The committee will set deadlines for these remedies to be made. A letter will be written to the parties involved (no-one else), and the committee will be responsible for determining whether these remedies have been achieved. Ordinarily, no situation will be allowed to persist more than 12 months of active mediation. It is expected that most cases reaching this phase will be resolved here.

Stage 3. Parties fail to meet deadlines or have irreconcilable differences

The committee is responsible for contacting the DGS and the department head and making the documentation available from Stage 2 for their review.

In the case of irreconcilable differences, the committee will recommend whether the student is eligible for the "safety net" departmental assistantship while the student looks for a new advisor. Ordinarily, the student is expected to transfer to a new advisor within one semester, however, funding for an additional semester may be requested. In this case, the committee or DGS will provide letters on behalf of the student as needed.

If the student has not fulfilled the performance standards (as articulated in documentation, Stage 2), the committee will recommend to the DGS that the student be dismissed. The DGS will then file the necessary paperwork with the Graduate School. Typically, this paperwork is a letter that documents the attempts at reconciliation and the chronology of events. Documentation from Stage 2 is needed to facilitate this process.

POLICY AND PROCEDURES ON SEXUAL HARASSMENT

Sexual harassment in any situation is reprehensible. It subverts the mission of the University, and threatens the careers of students, faculty, and staff. It is viewed as a violation of Title VII of the 1964 Civil rights Act. Sexual harassment will not be tolerated in this University. For purposes of this policy, sexual harassment is defined as follows:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic advancement,
2. submission to or rejection of such conduct by an individual is used as the basis for employment decisions or academic decisions affecting such individual,
3. such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment.

To file a sexual harassment complaint:

Go to someone you trust and discuss the complaint with them to see if they can help.

If the individual or individuals can't help they will direct you to someone who can.

You can report a sexual harassment complaint to a Dean, Department Head, and/or Equal Opportunity Director. If a complaint is reported to one of the above, they should then report it to
the Assistant Director of the University of Minnesota Equal Opportunity Office responsible for sexual harassment issues.

If you wish not to report the complaint to any mentioned above, you can report the complaint directly to the University of Minnesota Equal Opportunity Office by calling 612-624-9547 or emailing eoaa@umn.edu.

**EQUAL OPPORTUNITY STATEMENT**

The University of Minnesota provides education to over 67,000 students and employs over 20,000 employees in a variety of instructional, research, administrative, and support roles on five campuses in the State of Minnesota (Crookston, Duluth, Morris, Rochester, and the Twin Cities). It is the University's policy to provide equal opportunity to all employees and applicants for employment without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression ("protected classes"). The University also provides reasonable accommodations to qualified individuals with disabilities as required by law, and bases its employment decisions on valid job requirements. These University policies and practices apply to all of its employment actions including, but not limited to, recruitment, hiring, promotion, compensation and training.

The University prohibits discrimination against employees and applicants on the basis of their membership in a protected class and is committed to taking affirmative steps to ensure that the University's employment practices are free from discrimination. Additionally, the University prohibits retaliation. Retaliation may include harassment, intimidation, threats, or coercion because an employee or applicant has objected to discrimination, engaged or may engage in filing a discrimination complaint, assisted in a discrimination review, investigation, or hearing or has otherwise sought to obtain their legal rights under any federal, state or local equal opportunity law.

**STUDENT REPRESENTATION IN THE DEPARTMENT**

On an annual basis, Frenatae elects the student representative to the voting staff in the department, and the student representative to the Council of Graduate Studies (COGS). Entomology graduate students also serve on most departmental committees according to the Bylaws of the Constitution for the department. See the Administrator for copies of the Constitution, the By Laws, and a current list of departmental committees. Express interest to Head or DGS to be appointed to any particular committee.
Chapter 10

FINAL CONSIDERATIONS

Job Placement

Notices of vacant positions are posted on the main bulletin board on the 2nd floor and by email.

Among other documents for application, most employers request that names of references be provided. Most often, references will be members of the Entomology faculty. Before releasing names of references to potential employers, it would be courteous and prudent to check with the references to confirm they are available to write letters on a student's behalf. If relevant information is provided to them about the student and the position to which he/she is applying, they will be able to write letters that are most effective.

Before You Leave

See the Administrator before leaving campus. Return any keys, equipment, books and microscopes that are in your possession, make sure copies of data have been left with the advisor, that relevant voucher specimens have been deposited in the museum, and that a forwarding address has been left. Under no circumstances are exiting students allowed to retain keys to the building. If not returned a hold will be placed on a student's graduate record and the degree will be in jeopardy.

Exit Interview Prior to departure, each graduate student should arrange an exit interview with the Department Head (DH), to discuss the experience as a student in the department. This information can be used to improve the experience of future students and the quality of our program. It also gives the DH the chance to say congratulations, good-bye, and good luck, and that we hope that a student's time in the Department of Entomology has been productive, educational, and enjoyable.

Please see the Administrator to make an appointment to meet with the Department Head before leaving.