Department of Entomology

Graduate Student Manual

Celebrating 125 Years Excellence in Graduate Education
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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. Examples of forms and filing procedures are included in the Appendix.

Other Sources of Information

This manual supplements information provided in the Graduate School Catalog (http://www.catalogs.umn.edu/grad/documents/GradCatalogFINAL.pdf) 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 various milestones along the way. These charts are available here: link: http://www.grad.umn.edu/students/checklists/

Of course, students should feel free to contact the Department's Director of Graduate Studies (DGS), Timothy Kurtti, or DGS assistant, Felicia Christy 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 subdiscipline.

**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 two 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.
DEGREE PROGRAM REQUIREMENTS

Requirements for each degree are set by the graduate faculty in Entomology and the Graduate School. Requirements for each degree are described in detail below. A suggested timeline is also provided in Chapter 6 for rough guidance in scheduling. Entomology and Graduate School filing procedures and where to obtain forms are presented in the last section of this manual.

Ethics in Science
All students (Master’s and Ph.D.) must satisfy an ethics requirement. One way this requirement may be met is by enrolling in ENT 8061, a one-credit, S/N course entitled, Scientific Communication and Ethics, offered every fall in the Department of Entomology. Students who received training through other appropriate venues, are exempt from this requirement but are encouraged to attend the course.

Graduate School Registration Requirement
All Graduate School students will be required to register in the Graduate School every fall and spring term to maintain their active status. This is a change from the previous policy that required Graduate School registration once per year.

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 School student.

Graduate Students who must register solely to meet the Graduate School's registration requirement may register for Grad 999. Grad 999 is a free, zero-credit, non-graded registration mechanism that meets the Graduate School’s registration requirement. 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 for details).

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/.
Master of Science (M.S.)

Plan A

Students must:

- Complete an approved program of course work that includes at least 14 class credits in 4000- to 8000-level entomology courses. Included in the 14 credit minimum are the core 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;
- Complete 6 credits outside of Entomology (minor or supporting programs) in addition to the 14 credits in entomology;
- Pass two written examination questions;
- Take 10 thesis credits (ENT 8777);
- Present a thesis proposal in a public seminar;
- Present a public thesis defense seminar;
- Defend the thesis in a closed final oral examination;
- Deposit voucher specimens in the departmental museum if appropriate;
- Submit the final version of the thesis to the Graduate School

Plan B

Students must:

- Complete an approved program of course work that includes at least 30 class credits in 4000- to 8000-level entomology courses. Included in the 30 credit minimum are the core courses (11 cr., see below), and six credits of special problems (ENT 5910). The graduate school requires that 2/3 of all course credits be taken A-F;
- Complete 10 credits outside of Entomology (minor or supporting programs) in addition to the 30 credits in entomology;
- Pass two written examination questions;
- Submit two project reports (rather than a thesis) to the final examination committee (reports not necessarily presented in a public seminar);
- Pass final examination (written and/or oral)
- Submit the project reports to the Entomology library (optional but encouraged)

Doctor of Philosophy (Ph.D.)

Students in the Ph.D. program must:

- Complete an approved program of coursework that includes at least 15 class credits in 4000-, 5000-, and 8000-level Entomology. Included in the 15 credit minimum are the core 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;
- Complete 12 or more credits outside of Entomology;
- Pass three written examination questions;
- Pass an oral preliminary examination;
- Take 24 thesis credits (ENT 8888);
- Present a thesis proposal in a public seminar
- Present a non-thesis lecture as a public seminar
- Present a public dissertation defense seminar;
- Defend the dissertation in a closed final oral examination;
- Deposit voucher specimens in the departmental museum if appropriate;
- Submit the final version of the dissertation to the Graduate School.
## Degree Program Requirement Table

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Masters Plan A</th>
<th>Masters Plan B</th>
<th>Ph.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entomology - minimum credits</td>
<td>14</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>(includes 6 cr in ENT 5910)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seminar Ent 8300 (included in Entomology credits above)</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Credits outside Entomology (minor or supporting programs)</td>
<td>6</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Thesis Ent 8777</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thesis Ent 8888</td>
<td>0</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Written Prelim Exams (total points)</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Oral Prelim Exam</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Thesis Proposal Seminar</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-Thesis Seminar</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Thesis Defense</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Final Exam (oral)</td>
<td>Yes</td>
<td>Yes (oral or written)</td>
<td>Yes (oral)</td>
</tr>
<tr>
<td>Submit to Graduate School</td>
<td>Thesis Reports (2)</td>
<td>Dissertation*</td>
<td></td>
</tr>
</tbody>
</table>

- Please note that all Graduate School forms refer to a Ph.D. dissertation as a “thesis”.
- Graduate School requirements for a Plan B Master’s Degree is for a total of 30 credits so additional courses are needed to meet this requirement.
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 & Function  ENT 5011, 4 cr
- Insect Ecology  ENT 5041, 3 cr
- or Insect Population Dynamics  ENT 5045, 3 cr

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.

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.

Transferring Credits and Waiving Requirements

The basic rules for transferring credits from other Institutions are outlined in the Graduate School Catalog. In brief, the Graduate School states that courses taken before the awarding of a baccalaureate degree cannot be transferred, and 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. 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.
Minimum Grade Point Average

The Graduate School sets a minimum grade point average (GPA) for all courses listed on the official degree program at 2.80. 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 defense seminar that reflects work for a previous M.S. degree. 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. Six 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 co-ordinator (see below) and the Assistant to the Director of Graduate Studies. Number of passes and time allowed are as follows:

<table>
<thead>
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<th>Degree Program</th>
<th>Previous Degree</th>
<th>Points Required</th>
<th>Max. Yrs. Allowed</th>
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<tr>
<td>Ph.D.</td>
<td>B.A. or M.S. from other field or institution</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>M.S. in Entomology from U of MN</td>
<td>1 additional; 3 total</td>
<td>1</td>
</tr>
<tr>
<td>M.S.-A</td>
<td>B.S. or B.A.</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>M.S.-B</td>
<td>B.S. or B.A.</td>
<td>2</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 passing the required number of questions 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 six exam committees per calendar year. The current Prelim Coordinator is Robert Koch. Committees consist of two to four faculty members with a designated chair. At two-month intervals, 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 Moodle 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 typed. The questions should be short enough to answer in four hours, but students are allowed 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 hands out a question to all interested students on the examination date and then receives their 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.

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 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 http://www.grad.umn.edu/students/gssp/). 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 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. 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 (written and/or oral).

The final oral exam can be scheduled with the Graduate School when the reviewing members of the Advisory Committee (see below) 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 or Dr. Ralph Holzenthal, 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, Ralph Holzenthal.
STUDENT'S ADVISORY COMMITTEE
Members

An Advisory Committee (AC) must be established by each student during the first two semesters of residence.

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 at minimum will 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). 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 in this case they must be approved by the College in a process that is initiated by the advisor and the DGS.

The AC will help the student define a research area, work out a list of courses that should be included in the degree program course list, acquire technical skills, and serve as a sounding board for ideas or problems - all at the student’s request.

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. The Director of Graduate Studies is responsible for seeing that all students have ACs.

Members of this committee will be the departmental nucleus of subsequent committees that conduct the oral prelim, read the thesis or project reports, and conduct the final oral exam. Substitutions may be necessary because of sabbatical leaves, retirements, or emergencies.

To form or made changes to the advisory committee, students must initiate the WorkflowGen process.

*For Ph.D. use http://www.grad.umn.edu/students/doctrinal/index.html.

*For M.S. use 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 end of the student's first year in residence.

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. 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.
### RECOMMENDED SCHEDULE OF PROGRESS

**M.S. Plan A & M.S. Plan B**

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Suggested Courses (credits*)</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fall</td>
<td>ENT 1005/5900 Insect Biology (3), <em>if required</em>&lt;br&gt;ENT 8061, Scientific Communication and Ethics (1)&lt;br&gt;ENT 5021 Insect Biodiversity &amp; Evolution (4)&lt;br&gt;Elective courses; and ENT 8777 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam questions taken&lt;br&gt;• Advisory Committee chosen</td>
</tr>
<tr>
<td>1</td>
<td>Spring</td>
<td>ENT 5011 Insect Structure &amp; Function (4)&lt;br&gt;ENT 8300 Graduate Seminar (1), research proposal&lt;br&gt;Elective courses, ENT 8777 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam questions taken&lt;br&gt;• Meet with Advisory Committee&lt;br&gt;• Present pre-thesis seminar</td>
</tr>
<tr>
<td>2</td>
<td>Fall</td>
<td>ENT 5041 Insect Ecology (3), <em>even years only</em>&lt;br&gt;OR&lt;br&gt;ENT 5045 Insect Population Dynamics (3), <em>odd years only</em>&lt;br&gt;Elective courses, ENT 8777 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam questions taken, if needed (2 points required for Plan A &amp; B)&lt;br&gt;• File an official Graduate Degree Plan</td>
</tr>
<tr>
<td>2</td>
<td>Spring</td>
<td>Elective courses, ENT 8777 (fill to 14 cr/semester*)</td>
<td>• Public seminar presented day of final exam (Plan A)&lt;br&gt;• Final oral exam taken&lt;br&gt;• File Thesis (A) or project reports (B) and final oral exam reports with Graduate School&lt;br&gt;• Voucher specimens deposited</td>
</tr>
</tbody>
</table>

* If supported on an RA, register for ENT 8777 to a maximum of 14 credits per semester and a max of 50 cr during degree.
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. 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.
# Recommended Schedule of Progress – Ph.D.

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
<th>Suggested Courses (credits*)</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fall</td>
<td>ENT 1005/5900 Insect Biology (3), <em>if required</em>&lt;br&gt;ENT 5021 Insect Biodiversity &amp; Evolution (4)&lt;br&gt;ENT 8061, Scientific Communication and Ethics (1)&lt;br&gt;Elective courses; and ENT 8888 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam question taken</td>
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<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Spring</td>
<td>ENT 5011 Insect Structure &amp; Function&lt;br&gt;ENT 8300 Graduate Seminar (1), research proposal&lt;br&gt;Elective courses, ENT 8888 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam question taken&lt;br&gt;• Advisory Committee chosen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fall</td>
<td>ENT 5041 Insect Ecology (3), <em>even years only</em>&lt;br&gt;<strong>OR</strong>&lt;br&gt;ENT 5045 Insect Population Dynamics (3), <em>odd years only</em>&lt;br&gt;Elective courses, ENT 8888 (fill to 14 cr/semester*)</td>
<td>• Written Prelim Exam questions taken, if needed (3 points required)&lt;br&gt;• Meet with Advisory Committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Spring</td>
<td>ENT 8300 Graduate Seminar (1), literature review&lt;br&gt;Elective courses, ENT 8888 (fill to 14 cr/semester*)</td>
<td>• File an official Graduate Degree Plan with College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Fall</td>
<td>Elective courses; ENT 8888 (fill to 14 cr/semester*) as needed.</td>
<td>• Schedule Prelim Oral&lt;br&gt;• File Oral Preliminary Exam Report at Grad School</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Spring</td>
<td>Elective courses; ENT 8888 or 8594 (fill to 14 cr/semester*) as needed.</td>
<td>• Thesis Proposal Form filed with Graduate School</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fall</td>
<td>One-credit status**</td>
<td>• Schedule Final Oral Defense</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spring</td>
<td>One-credit status**</td>
<td>• Voucher specimens deposited&lt;br&gt;• Graduation</td>
</tr>
</tbody>
</table>

* If supported on an RA, register for ENT 8888 to a maximum of 14 credits per semester until 24 ENT 8888 credits have been accumulated. After this, use ENT 8594 to fill to 14.

**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. The Application for Advanced Doctoral Status form has to be turned in to the DGS every semester for which this status is applicable.
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 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. By end of the 6th semester: Complete courses and written preliminary exam questions. File a Written Preliminary Examination Report with the Graduate School. 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.
Student Progress Report

The Graduate School 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. Annually, the Department of Entomology Graduate Faculty will meet as a committee of the whole to evaluate each student in the department.

At this annual meeting each student's advisor will summarize for the Graduate Faculty the progress of each of his or her student(s). After the short presentation by the major advisor, comments from other Graduate Faculty members are solicited. A short summary of the collective input from the Graduate Faculty is written and provided as feedback to you. If you have any questions or concerns about the evaluation process, please speak with your advisor, or with the DGS.
Chapter 7

DEPARTMENTAL OPERATIONS

Roles of Graduate Assistants

Graduate education should develop teaching and research skills. Accordingly, financial aid is available as assistantships to students who perform essential roles in the teaching and research programs in Entomology. Assistants are of two kinds, teaching assistants (TAs) and research assistants (RAs).

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.

The assistant's responsibilities are to be outlined in writing, as specified in the assistant's handbook. Details should be discussed until both parties have reached a mutual understanding of goals, procedures, and expectations. However, responsibilities do change as programs change, so a detailed listing of duties may inhibit performance more than help. There will always be some dirty work, some routine, and some stress; all are part of teaching and research. Arrangements must be made by the department and faculty advisor to ensure that each assistant obtains practical experience that is meaningful, and to ensure that the work load does not interfere with normal progress toward the degree.
Registration Requirements for Graduate Assistants

All Graduate students paid by the department (i.e. have a Research Assistant (RA) or Teaching Assistant (TA) appointment) must register for a minimum of 6 credits each semester to be considered full-time students prior to achieving Advanced Master’s status or one-credit status (for Ph.D.s). **International students paid through the department:** Falling below the 6 credit minimum at any time may be grounds for deportation.

If you are an RA or TA, your tuition benefit allows you to register for up to 14 credits without extra charge. It is in the department's best interest that you register for 14 credits. After registering for your formal courses, fill up the rest of the credits with ENT 8888 (Doctoral thesis credits – 24 are required), 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.

If you are an Advanced Master's or PhD student, you may qualify for one-credit status (check with your advisor or the DGS). If you are on the one-credit registration, please use ENT 8333 for MS students, or ENT 8444 for PhD students. Please **DO NOT** use 8777 or 8888. **Specify S/N unless you want a letter grade.** One-credit enrollment requires a form signed by the DGS and a change that goes through payroll. Master's students MUST have the form filed by the dates listed on page two the form, Ph.D. Students must file the form each semester they register for ENT 8444. Forms are available from the DGS.

Teaching Assistants

Teaching assistants generally aid faculty by directing course laboratory sections and unscheduled activities outside the classroom. TAs also prepare or maintain class materials and collections. Occasionally, TAs may be asked to lecture in areas of their special expertise. However, lecturing should not be a regular duty. 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)

Being a TA is a learning experience and a service to the department. Effective TAs have a sincere interest in students and teaching. TAs often have close contact with students and can provide helpful advice to instructors on how an audience's interests might best be served.

Research Assistants

These 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 Time Cards

Assistants must fill out payroll documents before they are officially on the payroll. Stipend checks are issued every two weeks. For details, see the department's office personnel.

Research Assistants may be asked to supervise hourly employees. Hourly employees must submit signed time cards to a box for the accountants in 219 Hodson (the accountant office is in McNeal Hall). See the staff for a schedule of time card deadlines.
DEPARTMENTAL SUPPORT

Key People

Students will have many contacts with department staff and graduate faculty aside from the advisor and committee. Four deserve mention here because they are important sources of information and services.

The Department Head is William (Bill) Hutchison. His office is in the department's office, 219 Hodson. He is the department's spokesperson within the College of Food, Agricultural and Natural Resource Sciences (CFANS) and the University of Minnesota. He 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 seeing that all the rest of us comply with the laws, rules and regulations of the College and the University of Minnesota.

Many activities will involve use of services in the main office, where all secretarial and accounting activities are administered. Felicia Christy is the department's Associate Administrator, and also the Assistant to the DGS (see below). Among other things, she is responsible for cubicles, keys and other transactions approved by a member of the faculty. The department's accountant, Mr. Will Cossens, is responsible for payroll, purchasing, photocopying, and other fiscal matters.

The Director of Graduate Studies (DGS), Tim Kurtti, is responsible for the graduate programs in Entomology. He oversees recruitment and admittance of new students and he monitors students' progress through their degree programs. The DGS is the departmental liaison among the graduate faculty, the graduate students, and the Graduate School.

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 and sponsor student social activities.

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 DGS 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 boards are on the wall to the left of the mailboxes on second floor, and on the left wall in the entry to the department office. Frenatae has a bulletin board on the third floor. These bulletin boards are sources of information about upcoming seminars, course advertisements, job announcements, and university events.

### 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 Felicia Christy or Bill Hutchison 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. Copies cost 6¢ plus tax per page. Log in electronically to use the machine. Each student's advisor has the correct code for copying related to grant-supported research. See Felicia Christy to set up an account for personal copies. Students will be billed for personal copies at the end of each month. Photocopies at a higher price per page are also available from machines in the EF&W library, the St. Paul 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 Felicia Christy in 219 Hodson to get card access to the building and keys to hallways and labs. Following payment of a $10 (refundable) key deposit, Felicia will issue keys to the building, to teaching rooms, to desks and cabinets, and to the advisor's research lab. 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. Remember, having a key that fits a door does not give permission to open it, first see the person in charge. Keys must be returned to Felicia 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 by the elevator. Check it daily for mail and messages. Students on assistantships should inform advisors and secretaries of plans to be absent from campus so that problems can be handled promptly, rather than sit unattended in a mailbox. Please leave a forwarding address with Felicia Christy 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] or [ent-grad], let the staff know so they can make sure that the e-mail address on the list is correct.
**Server Accounts/Groupwise e-mail accounts**

The college has server space available for department members and students. Please speak with the office staff and/or contact OIT (see above) to access space on the server. It is also possible to get access to the shared printer in 219; see the office staff about this.

**Ordering Supplies**

Most supplies are ordered from University Stores. Ordering can be done online or over the phone. Forms for ordering supplies with a purchase order are available from the accounting staff (esp. Will Cossens) and in the storeroom. All requests must include correct account numbers, must be approved by the professor in charge of the project, and must then be submitted to accounting for processing. Once an order is received, check for damage and give packing slips to Will.

Quick or emergency purchase orders up to $2000 can be arranged, see Will for procedures. The student's advisor or project leader should be consulted if long distance phone calls are required for official business.

**Phones**

Phones in research labs may be used for local calls. They 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 UPAC. Calls to directory assistance cost money! Please, do not use the phones in the department office.

**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 advisor.
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.

Bicycles and Dogs
Bicycles and dogs are not permitted in the building.

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 (http://www.maes.umn.edu/Plant_Growth_Facilities/Contacts/index.htm).

Insect Museum
The department has an excellent insect collection that is available for study in Room 311. See Ralph Holzenthal or Robin Thomson for access to specimens or help is needed with identification, distribution, or taxonomy.

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. Park legally. A violation will cost at least $25!

Recycling
The University’s Quad-4 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 equipped as a darkroom. Ann Fallon maintains chemicals for development of X-ray films and other molecular applications.

**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.

Most of the department's computers are linked to the university's mainframe systems. SAS and other statistical software are covered by a site license that is annually renewed for a specific computer. Renewal fees are covered by the faculty member’s grants. Molecular Biology computing (GCG and other software) is arranged through a free account with a student's advisor.

**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 Felicia Christy. Inventoried items will have an inventory sticker somewhere on the outside.

**Overhead Projectors**
The classrooms (480, 485) have overhead projectors that need to stay in those rooms. There is one overhead projector in 219 that is can be checked out for use within the building.

**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.
Research and Teaching Equipment

Digital Film Recorder and Large-Format Printer

The department no longer owns a poster printer; see the office staff for instructions on how to use College/University facilities to print posters.

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: http://oit.cfans.umn.edu/support/printingsupport/networkedprinter/index.htm

Mac: http://onyxweb.mykonicaminolta.com/OneStopProductSupport/SearchResults?products=1621&fileTypes=0&OSs=29

The printer name is: cfans-ento-hodsonh219-konicac554e

To Print:

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

Leave the ‘Department Name’ blank, and enter your copy code. 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. See Janet or Jenni in the office for the appropriate form.

Occasionally, a vehicle can be provided for student travel as a group to meetings outside of Minnesota. Groups that travel out-of-state must have prior approval from the Vice President for Student Affairs, so considerable advance planning is essential.

A Travel Expense Voucher must be submitted no later than 10 days after returning, and should reflect actual costs of travel, meals, lodging, and so forth. Turn in receipts for all expenses except meals and taxis. See Jenni Snyder prior to departure for necessary expense account forms and more details.

Student Travel Fellowships
Student Travel Fellowships are awarded to students for the purpose of encouraging travel to scientific meetings to present research papers. Attendance promotes professional development and the visibility of the department. All students enrolled in M.S. and Ph.D. programs in Entomology are eligible to apply. In decreasing order, priority for awards is for students presenting research papers or posters, for students nearing completion of their degree program, and for students lacking other sources of support. Students may apply for more than one meeting per year. Awards are made on an annual basis for travel during the state fiscal year, July 1 through June 30. Deadline for applications will be announced by the DGS. Application forms are distributed to mailboxes by the DGS.
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 are 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 of publication, it must be reviewed by the faculty member who directed, supervised or permitted the research.

Graduate Student Organization

Frenatae is the graduate student organization in the department, the main vehicle for student discussion of issues affecting students in the department. Frenatae also sponsors fund-raisers and informal social events.

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 (below)
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.

**Student Representation**

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 Felicia Christy for copies of the Constitution, the By Laws, and a current list of departmental committees. Express interest to Bill Hutchison (Head) or Tim Kurtti (DGS) to be appointed to any particular committee.

**The Statistical Consulting Service**

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/
SERVICES ON CAMPUS

(All Area codes are 612)

Bookstore
Minn. Book Center          Coffman Union, Mpls. campus       625-6000
Books Underground          St. Paul Student Center           624-9200
Outdoor Store              St. Paul Student Center           625-8790

Check Cashing              107 Coffey Hall

Computer Facilities
Bookstore                  St. Paul Student Center           624-7788
78x663
Books Underground          St. Paul Central Library           624-3269
Outdoor Store              625-4771

Copies on Campus

Council of Graduate Students
(COGS) 409 Johnston Hall, Mpls. campus       626-1612

Disability Services 30 Nicholson Hall       624-4037

E-Mail Help Line

Entomology Dept. Office
219 Hodson Hall           624-3636
Hall Phone
4th Floor Hodson           624-4911
Hall Phone
5th Floor Hodson           624-5380

Fee Payments
Bursar's Office, 107 Coffey Hall       625-8108

Financial Aid Information
210 Fraser Hall           624-1665

General Campus Information

Minneapolis
625-4177
St. Paul
625-9794
University Directory
625-5000

Graduate Assistant Office
1313 5th St. SE, Suite 317       627-1075
(TA's, RA's, health benefits, insurance info, tuition eligibility)

Graduate Student's Degree Office
316 Johnston Hall           625-3490
(student files, exam scheduling, graduation)

Graduate Student Services
306 Johnston Hall           625-9364

Health Services

Minneapolis
410 Church St. SE           625-8400
St. Paul
109 Coffey Hall           624-7700
Dental Clinic
Moos Health Tower           624-9998
Pharmacy
410 Church St. SE           624-7655

Housing Services (on and off campus)
Comstock Hall East           624-2994

International Student & Scholar Services
20 Nicholson Hall           626-7100

Libraries

St. Paul
Magrath Library           624-2233
Entomology
375 Hodson Hall           624-9288
Plant Pathology
395 Borlaug Hall           624-9777

Microcomputer Center Help Line

Minnesota International Student Assn. (MISA)
235d Coffman Memorial Union           625-6119

Notary Services (free)

Post Office
St. Paul Student Center           625-8284
Registration, Records & Admissions
130 Coffey Hall           624-3731

Statistics Clinic
133 Classroom Office Bldg.           625-3121

Student Employment Center
120 Fraser Hall           624-8070

Student Placement Office

Agriculture
277 Coffey Hall           624-2710
Biological Sciences
217 Snyder Hall           624-9270
Education Student Affairs Ofce.
40 Wulling Hall           625-9884
Univ. Counseling & Consulting Services
190 Coffey hall           625-3115
Final Considerations

Job Placement

Notices of vacant positions are posted on the main bulletin board by the elevator on the 2nd floor. Older announcements are filed in notebooks on the counter in the office. Consult these sources regularly to learn of employment opportunities.

Among other documents for application, most employers request that names of referees be provided. Most often, referees will be members of the Entomology faculty. Before releasing names of referees to potential employers, it would be courteous and prudent to check with the referees 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.

Checkout Sheet

A checkout sheet, available from Felicia Christy, must be completed before leaving campus. The card will assure the office that any keys, equipment, books and microscopes have been returned, that copies of data have been left with the advisor, that relevant voucher specimens have been deposited in the museum, and that forwarding address has been left. Under no circumstances are exiting students allowed to retain keys to the building. If a checkout sheet is not returned indicating all the details have been attended to, 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, Bill Hutchison, 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 Bill 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 Felicia Christy to make an appointment to meet with Bill before leaving.
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.