



**Student Handbook
2012-2013**

**Graduate Interdisciplinary Program in
Entomology and Insect Science**

Important Contacts

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Important Websites

The EIS website contains important information about the graduate program, including news and contacts <http://insects.arizona.edu/>

The Graduate College website contains information pertinent to the degree certification process <http://grad.arizona.edu/>

UAccess hosts employment, teaching, financial and enrollment information <http://uaccess.arizona.edu/>

Many classes use the university online class management system, D2L <http://d2l.arizona.edu/>

The Student Union provides many facilities and services <http://union.arizona.edu/>

International Student Programs and Services <http://internationalstudents.arizona.edu>

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Welcome

Welcome to the Graduate Interdisciplinary Program in Entomology and Insect Science (GIDP-EIS). Students entering the program will choose one of two tracks: Entomology or Insect Science. Some requirements are specific to the track chosen. Other requirements are for all students in the program. Whatever track you choose, you are encouraged to bridge scientific disciplines in ways that bring fresh perspectives to questions in insect biology. The program faculty is here to assist you in developing your individualized degree program and in designing and accomplishing your research. To a large extent, your level of commitment to your program will determine your success as a graduate student and scientist. So, welcome and best of luck in your graduate training.

The Program

The faculty of GIDP in Entomology and Insect Science currently includes members representing nine departments: Biochemistry, Entomology, Ecology and Evolutionary Biology, Geography, Neurobiology, Molecular and Cellular Biology, Nutritional Sciences, Plant Sciences, and Electrical and Computer Engineering. Most faculty members also belong to the Center for Insect Science, a multi-organization campus made up of insect scientists in Arizona representing a wide range of primary disciplines.

Administration of the Program

The Entomology and Insect Science (EIS) Program is one of 15 GIDPs at the University of Arizona. The University of Arizona's GIDPs transcend departmental boundaries by facilitating cutting edge teaching and research where traditional disciplines interface. GIDPs report directly to the Vice President for Research through the Director of GIDPs, currently Dr. Andrew Comrie. The GIDP in Entomology and Insect Science is administered by an Executive Committee. The Executive Committee is chaired by the program chair, and includes six faculty members and a student member. The Executive Committee of the GIDP in Entomology and Insect Science formulates policies and procedures for the operation of the graduate program in such areas as admissions, curricula, student supervision, and completion of degree program requirements. In addition there will be two other standing committees for the program. The Admissions Committee coordinates all recruiting and admissions procedures (less relevant to students already here, unless you become appointed to this committee). The Advisory Committee is more relevant for current students. This four member committee orients and advises entering students who have not yet selected a major advisor. In addition, the Advisory Committee solicits and evaluates annual progress reports from all students (see Format for Reports in Appendix).

EIS students' affiliation (for publications or presentations) is "Graduate Interdisciplinary Program in Entomology and Insect Science, 1040 E. 4th Street, PO Box 210077, Tucson, AZ 85721-0077." This is true even though your advisor (who may be a co-author on your work) has a separate, departmental affiliation (e.g. Dept. of Ecology and Evolutionary Biology). The EIS program and the two programs that preceded it also have close relationships with the Center for

Insect Science, the Department of Entomology, and the College of Agriculture & Life Sciences (the college in which Entomology is housed), and these institutions should be gratefully acknowledged for any funding granted.

Advising and Progress

Advisory Committee

The Advisory Committee will advise you in the preparation of your first-year program of study until the time that you select a Major Professor and Graduate Committee. If you have selected an advisor by the beginning of the first year, you can assemble your own Graduate Committee in consultation with this advisor. Completion of remedial course work may be required by these committees. In addition, faculty with whom you conduct rotations can serve as interim faculty advisors. One advantage of the rotation system is that students can take some time in the first year to decide on a research direction and a particular laboratory. If you are an undecided first year student, communicate with the faculty whose laboratories you are considering joining to make sure they are also willing to advise you.

Major Advisor

Students should select an advisor and Graduate Committee before the start of the third semester of study. This selection will be influenced by discussion with the potential advisor, research rotations, and individual meetings with the Program faculty. You will meet with your advisor frequently in the course of your program. You will also receive annual feedback on your progress report from the Advisory Committee. Feedback on the reports serves to support students and advisors, as students progress through their graduate program.

Progress Reports

Annual progress reports are required from all current students. They are generally due at the end of May, after the second semester has concluded. The Advisory committee then meets to discuss all of the student reports. Each student and their advisor receives a letter with the summary of the Committee's thoughts and concerns. When there's concern about the progress of a student, the report and letter from the Committee will be forwarded to the EIS Chair for further discussion with the student and advisor. Copies of all letters from the Advisory Committee will be filed with the Executive Committee and in the students' files. If students fail to make progress in successive years, the Advisory Committee may recommend probation or termination.

Expectations

Students in the Graduate Program are expected to maintain a grade-point average of at least 3.00 (B) and to have no more than one grade of C. Failure to achieve such a record can result in dismissal from the program at any time.

We expect students will take their Comprehensive Exam before their third year, and will complete all requirements for the Ph.D. degree within 5 years. The Graduate College mandates that all requirements must be completed within 5 years of passing the Comprehensive Exam.

You must meet at least once a year with your Graduate Committee for a formal review of your progress.

EIS Program Requirements

Graduate College Requirements

Major requirements, PhD

A minimum of 45 units of graduate coursework must be taken, excluding dissertation units [<http://grad.arizona.edu/academics/program-requirements/doctor-of-philosophy/credit-requirements-and-transfer-credit>]. These units include 36 units toward the major and nine counting toward the minor. At least half of these (23 units or more) must be taken in letter-graded courses (vs. research or independent study units). These units will include EIS courses, courses in your minor, other courses chosen from the schedule of classes and approved by your Graduate Committee, and research and independent study units. You may also include eligible transfer courses in this tally. Lastly, at least 18 units of Dissertation Research are required. See below for additional core course requirements for all EIS students (Section 2), and for special requirements for the two tracks (Sections 5 and 6).

Minor requirements, PhD

To make sure that you have some expertise in an area of science outside of EIS, a minor consisting of at least nine units in another department or program is required. You should check with the minor department to determine its requirements for course work, qualifying exams, comprehensive and final oral exams. Your minor advisor will determine the specific courses you will take toward your minor.

Masters requirements

Entomology track only. A minimum of 30 units total must be taken, including eight thesis units (EIS 910) and 15 EIS units of formal courses. At least 15 units must be completed toward the MS requirements in letter-graded courses [<http://grad.arizona.edu/academics/program-requirements/masters-degrees/credit-requirements>]. See below for additional core course requirements for all EIS students (Section 2), and for Entomology track students (Section 5).A

A Masters in the Insect Science track is awarded only in rare instances in which a student is unable, for whatever reason, to complete a Ph.D. To qualify for the master's degree, the student must successfully pass the written and oral comprehensive exams, or their equivalent, and fulfill all the requirements of the Graduate College for that degree.

Ethics and Academic Standards

EIS students must abide by all the relevant ethical and academic standards of the University (e.g., Academic Integrity: <http://deanofstudents.arizona.edu/codeofacademicintegrity>, responsible conduct of research: <http://www.vpr.arizona.edu/compliance>) as well as the policies of the Graduate College (<http://grad.arizona.edu/academics/policies/academic-policies>).

Program Requirements, All Students

Enrollment Policy

Students must take between six (minimum) and 12 (maximum) units of graduate course work in each fall and spring semester in order to remain in good standing in the Program. The customary number of units is 9. If you are funded by the College of Agriculture and Life Sciences you must take 10 credits. Some funding sources require that you register for up to 12 units.

Entomology and Insect Science (EIS) required courses

All EIS students will start their program with some required courses taken in the first or second year. After that time, you will select your courses in consultation with your Major Professor and Graduate Committee. While you will need to meet the Graduate College requirements and the requirements of the track that you have chosen, you will find that you have a great deal of flexibility to choose the courses most relevant to your interests and research direction.

Three courses are required for all EIS students.

- *Insect Systems Biology, EIS 520*. This course will be offered during alternate years. Depending on when students enter the program, they will take it in either their first or second year.
- *Current topics in Entomology & Insect Science (Seminar), EIS 596A*. In the fall students will attend Thursday seminars and, in a separate hour, discuss presentations and/or research areas by or with local or outside speakers. The spring semester seminar course will be formatted according to the faculty coordinator. PhD students are required to take this course 4 times (fall & spring semester offerings) in their 1st and 2nd year in the program. MS students are required to take this course 2 times (fall and spring) in their 1st year in the program.
- *Insect Biology, EIS 515R*. Required for incoming students who have not had an equivalent course. If you have taken an equivalent course please complete the

Evaluation of Transfer Credit form, <http://grad.arizona.edu/academics/degree-certification/forms> and discuss with your advisor.

Rotations

Each student must take one or more research rotations (two or more for the IS track, see below), which count towards the 36 units of EIS courses, in the first year in the Program. The required course, **Methods in Entomology and Insect Science (EIS 700)**, provides a formal mechanism for these rotations, which encourage you to have hands-on experience in areas of interest, to learn research methods in the field and to become acquainted with the laboratory work and research group of prospective dissertation advisors. You will earn 3 units per semester for a maximum of 9 possible units earned for rotation. Ordinarily, rotations run from 8-16 weeks in duration, with about 10 hours of work per week expected in the lab. The number of units you earn is dependent on the number of rotations you do and the time it takes to complete each one. It is common to complete 1 & ½ rotations in a semester with the 2nd rotation beginning mid-semester, with completion taking place in the following semester. Please note, you cannot register for rotation mid-semester. You must register prior to the semester start.

There is no set format for a given rotation project. Rotation projects should be designed by both the student and rotation host to achieve specific goals for student development and expected outcomes for the project. Before the project begins submit a rotation form to Rachael Mattull. The rotation form is located on the last 2 pages of this handbook.

Seminars and Group Meetings

You are expected to participate actively in one or more of the group meetings, discussion groups, seminars, and colloquia held by the Program or by the Center for Insect Science. Attendance and performance in these activities will be evaluated by the Major Professor and Graduate Committee at each yearly progress meeting.

Additional Course Requirements for Entomology Track

PhD. In addition to Insect Systems Biology (EIS 520) and Seminar (EIS 596A), Entomology track PhD students will take at least two of the following core courses: EIS 515R Insect Biology, EIS 517 Insect Systematics, and EIS 544 Insect Ecology.

Masters. In addition to the EIS program requirements (Insect Systems Biology, EIS 520 and Seminar, EIS 596A), Entomology track Masters students will take at least one of the following core courses: EIS 515R Insect Biology, EIS 517 Insect Systematics, and EIS 544 Insect Ecology. Students may be excused from one or more of these course requirements if their Graduate Committee is convinced that they have fulfilled them at another institution.

Additional Course Requirements for Insect Science Track

Insect Science Track students will do their rotations in their first year. At least two rotations are required, and not more than four are permitted.

Other program requirements

Teaching Requirement

University level teaching is considered essential training for an academic career. Therefore, PhD students must serve as a Teaching Assistant, or have an equivalent type of teaching experience for at least one semester sometime during their graduate program. There is no teaching requirement for Masters students.

Speaking Requirement

PhD students who have completed their comprehensive exams must present two talks on their research progress, at least one of which should be on campus. The talks may be presentations in the fall seminar series, or in another departmental seminar series on campus, or oral presentations given at a relevant national or international conference. Masters students should plan to give either a single seminar talk, or present orally at a conference.

Selection of Graduate Advisor and Graduate Committee

Students should select a major advisor and Graduate Committee in the first year before the start of the third semester of study. This selection will be influenced by research rotations, and individual meetings with the Program faculty. If you are considering inviting a particular faculty member for your Committee, you should establish a time to meet, and then plan to discuss your research plans, and ask whether they would be willing to serve on your Graduate Committee. Note: Graduate Committees may change over the course of a student's program. Changes may occur because of a change of the student's research focus, the departure of a faculty member to another institution, or, rarely, because of a conflict with a committee member.

The students Graduate Committee at the time of their comprehensive exam must consist of at least four members, three of whom must be University of Arizona tenured, tenure-track, or approved by the graduate college as tenure equivalent, and one or more of whom may be a special member(s) (i.e. not UA tenured, tenure-track or tenure-equivalent faculty). At least two committee members should be Faculty in the EIS Program (one of whom is the major advisor, or co-advisor), one faculty member should be from the student's minor field, and an additional faculty member may be chosen from either the major or minor area, may be a special member, or from another appropriate field. For special members, Graduate College approval is required. Contact Mike Renning (621-9227; mrenning@grad.arizona.edu) in the Graduate Degree Certification Office to determine whether the person you have in mind is on the approved UA list of special members. If not, Rachael Mattull can make the request to the Graduate College with a copy of the prospective member's CV.

A Masters Committee consists of a minimum of three members, one of whom is the major advisor. At least two of these must be University of Arizona tenured, tenure-track, or approved by the graduate college as tenure equivalent, and one may be a special member. Further information on special members is in the preceding paragraph.

The major advisor and Graduate Committee: (1) advise you on preparation of a program of study, (2) supervise your research (3) conduct the comprehensive examination, and (4) accept the dissertation and conduct the final examination and dissertation defense. In addition to the yearly-required meetings, it is highly advisable to schedule a committee meeting when the dissertation has taken shape and the end is in sight (e.g., the semester before you defend). Present the research that will be in the final dissertation to your committee at this time and make sure that all members approves of the scope, rigor, and organization of the final product. At this time, your committee can decide when it requires a final draft of the dissertation to review. At minimum, committees generally require the dissertation two weeks before the defense.,

Examinations

Qualifying Exam

While the Graduate College suggests that programs administer a qualifying exam, the EIS program does not have a formal qualifying exam. You will have passed the “exam” when you have: (1) completed course work in the first two semesters with a minimum of 3.00 grade-point average, (2) completed the research rotations, and (3) obtained approval for your Plan of Study.

Plan of Study

The Plan of Study should be filed with the Graduate College no later than the student's third semester in residence. The Plan of Study identifies: (1) courses the student intends to transfer from other institutions (if any), (2) courses already completed at The University of Arizona which the student intends to apply toward the graduate degree; and (3) additional course work to be completed in order to fulfill degree requirements. The Plan of Study must have the approval of the student's Major Professor and Graduate Committee before it is submitted to the Graduate College. The Graduate College requires approval signatures on the Doctoral Plan of Study from the Chair of the EIS and the student’s major advisor. The Plan of Study can be accessed on the Graduate College website with log-in through My Grad Coll [<https://grad.arizona.edu/gc/>], and information to assist students with the Doctoral Plan of Study is available at <http://grad.arizona.edu/academics/degree-certification/dpos>.

Comprehensive (formerly Preliminary) Examination

The comprehensive examination is designed to ensure that PhD students are broadly trained, can synthesize new knowledge, and think independently. Preparation for the comprehensive examination provides a rare opportunity to intensively read, think and write about one’s discipline. The comprehensive examination must be taken according to the Graduate College regulations [<http://grad.arizona.edu/academics/program-requirements/doctor-of-philosophy/comprehensive-examination>]. Under normal circumstances, the comprehensive examination should be taken in your fourth semester in the Program, the fifth semester at the latest. The examination, which has written and oral parts, tests knowledge in both the major and minor areas of concentration.

The written exam consists of two parts. The first part is a dissertation proposal, which should outline independent research, and is generally written according to the guidelines of a relevant funding agency (e.g. NIH, USDA, NSF). The dissertation proposal can be developed in consultation with your Committee. In the second part, you will write an essay on a topic chosen by the Committee. This second assignment will give you an opportunity to develop a synthetic, critical essay in an area allied but separate from your dissertation problem, and will be written without any consultation with other students or faculty. The second essay will be turned in a week after being presented. A student's Graduate Committee can modify the format of the written examination if an alternative format is deemed to be in the student's best interest.

(Sample of previous student's written exam coming soon.)

The oral exam is given by your Graduate Committee. You should download the form "Results of the Oral Comprehensive Examination for Doctoral Candidacy" from the Graduate College website [<https://grad.arizona.edu/gc/>] ahead of time, and meet with your advisor to discuss the format and scheduling of the exam. You will fill out a portion of the form and have the written comprehensive results certified by the EIS Chair before you bring it to the oral exam. The oral examination involves broad questions across your general field of study as well as more specific questions within your area of specialization. You should demonstrate strong fundamental knowledge in areas pertaining to Entomology & Insect Science as well as in the discipline represented by your minor. It may be advisable to speak to each member of your committee several weeks before your oral exam to ask them whether there is a particular body of work that they recommend you study (e.g., texts, papers, or topics). When the committee feels that the student is insufficiently prepared for the oral exam, they may postpone the exam, to allow more time for preparation. If the student is unprepared in the exam, the Committee will fail the student. The Graduate College allows only one re-take of the oral exam.

Advancement to Candidacy

When the student has an approved doctoral Plan of Study on file, has satisfied all course work, residence requirements, and passed the written and oral portions of the Comprehensive Examination, the student has "advanced to candidacy" and is eligible to apply for certain fellowships that are exclusively for students at this advanced stage of their program (e.g., the CIS Student Research Grants, and the NSF Doctoral Dissertation Improvement Grant). The Graduate College will notify you by e-mail when you have advanced to doctoral candidacy.

Students at this point must also file a Committee Appointment form with the Graduate College. This application must be submitted to the Graduate Degree Certification Office as soon as requirements are met but no later than six months before the Final Oral Defense Examination is scheduled. Deadlines for the submission of paperwork pertaining to doctoral programs are available online at Deadlines for Completion of Degree Requirements. The "Committee Appointment Form" is available online with log-in through My Grad Coll [<https://grad.arizona.edu/gc/>]. It requires approval signatures from your major professor, the EIS Chair and the director of graduate studies or department head for the minor.

Dissertation and Final Examination

In the months before your defense, you and your Graduate Committee will agree upon a schedule for completion of chapters, and submission of the dissertation to the Committee members. You are expected to provide the members of your Committee with the final, polished version of the dissertation at least 2 weeks prior to the scheduled Final Examination, or defense. The defense consists of a scheduled, advertised public seminar by the candidate followed by an oral examination by your Graduate Committee that cannot exceed 2 hours. While the oral portion of the Comprehensive Examination is often broad ranging, the Final oral examination is generally focused on the dissertation. The Graduate College requires a minimum of three members to approve the dissertation, all of whom must be University of Arizona tenured, tenure-track, or equivalent. The fourth and fifth members, if any, may be UA faculty or approved special members. If a committee has only three members, all must approve the dissertation.

[<http://grad.arizona.edu/academics/program-requirements/doctor-of-philosophy/dissertation-committee>]

Financial Information

Students are generally supported by Program funds in their first year while they take courses and do laboratory rotations.

Students in their second and subsequent years are funded by research assistantships from their advisors, teaching assistantships, training grant funds, or individual fellowships. All students are strongly encouraged to apply for individual fellowships as they are excellent training in summarizing research. If granted, fellowships and grants are prestigious and increase the probability of further funding and of securing positions after graduation. Fellowships also increase student independence. Students who are not legal residents of Arizona, but are on an RA or TA, receive a waiver of the out-of-state tuition charged by the University of Arizona.

Students who are self-funding, have less than a 'full time' (0.5) RA or TA, or who are on certain types of fellowships, may be responsible for some portion or all tuition charges. However, before you pay these, check with Rachael or Bob to see whether we have GRS/GTS funds to distribute that can reduce or eliminate your financial liability. These are generally distributed once a year, so you may have to anticipate more than a semester in advance. Enrollment in the University's student health plan for the student is covered when a student holds an assistantship position.

The Graduate College offers a financial resources page on their website, <http://grad.arizona.edu/financial-resources>. Here you will find a list of various funding opportunities for graduate students.

Scholarships are announced by email throughout the year so check your email on a regular basis!

You can also use the university scholarship finder:
<https://scholarshipuniverse.arizona.edu/splash/>

Previous EIS students have held scholarships or been eligible for scholarships from the following places:

- -Arizona Science Fellowship <http://grad.arizona.edu/node/702>.
-
- EPA STAR Fellowship for Graduate Environmental Study. These Fellowships offer three years of support, and are ideal for students whose research has clear environmental significance. (US Citizens or permanent residents only). http://www.epa.gov/ncer/rfa/2011/2011_star_gradfellow.html
- -NSF Graduate Research Fellowship that students can apply for as undergraduate seniors, and as doctoral students within the first year and before completing the fall term of the 2nd year. Those who are US citizen, nationals, or permanent resident aliens can apply: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=NSF
- Philanthropic Education Organization (women only, citizen or international students) <http://www.peointernational.org/peo-projectsphilanthropies>
- ASUA Book Scholarship Extravaganza (\$500 bookstore voucher, competition open to all students at the UA). Was announced on the UA website in March 2010, may or may not be repeated in subsequent years <http://www.asua.arizona.edu/ASUASite/ASUA.html>
- NSF Doctoral Dissertation Improvement Grant (NSF- DDIG) (For research funds (not salary) for PhD students who have advanced to candidacy, including non-resident aliens). http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5234
- Howard Hughes Medical Institute (for non-resident aliens) Applications announced by the university. Students apply at the university level and if selected to advance to the next level are then invited to access to the HHMI application system. <http://www.hhmi.org/grants/individuals/>
- Sigma Xi <http://www.sigmaxi.org/programs/giar/index.shtml>
- Department of Energy Scholars Program <http://orise.ornl.gov/doescholars/default.htm>

Suggested PhD Timeline

First Year

First Semester

Upon arriving in Tucson Initial meeting with Advisory Committee.
Visit with EIS faculty to select and plan rotations.
Complete first laboratory rotation(s); turn in rotation(s) report.

First Year

Second Semester

Complete final rotation(s), if applicable; turn in final rotation(s) report.
Select Major Advisor.
Develop Plan of Study with Major Advisor.
Choose Graduate Committee.

Annual Graduate Committee meeting for review of progress.

Second Year

First Semester

Meet with graduate committee, finalize Plan of Study, submit finalized Plan of Study to the Graduate Degree Certification Office.

Second Semester

Schedule and take Written and Oral Comprehensive Exam when all coursework has been completed.

Annual Graduate Committee meeting for review of progress.

Third Year

First Semester

MUST have completed and passed both written and oral exams—by end of semester.

Submit Doctoral Committee Appointment form to Graduate Degree Certification Office after completion of Comprehensive Exam and no later than six months before the Final Oral Defense Examination is scheduled.

Second Semester

Annual Graduate Committee meeting for review of progress.

Fourth Year

First Semester

Focus on dissertation research.

Second Semester

Annual Graduate Committee meeting for review of progress.

Fifth Year

First Semester

Prepare for dissertation defense and meet with the Graduate Committee.

Second Semester

Dissertation Defense.

To complete sometime during program: Teaching assistantship or equivalent, and two talks.

Suggested MS Timeline

First Year

First Semester

Upon arriving in Tucson Initial meeting with Advisory Committee
Select Major Advisor.

First Year

Second Semester

Develop Plan of Study with Major Advisor.

Choose Graduate Committee.

	Graduate Committee meeting—discuss thesis project, courses, get approval for and submit Master’s Plan of Study to Graduate College.
Second Year	
First Semester	Finish coursework, continue with thesis research.
Second Semester	Graduate Committee Meeting to discuss thesis results and presentation.
	Schedule and complete Final Exam (thesis presentation and defense).
	Submit “Completion of Degree requirements” to the Graduate College.

To complete sometime during program: Speaking requirement (one talk).

Note: it is not unusual for Master’s study to extend beyond two years. However, we do expect a Master’s program to be completed within three years.

Exit Interview

Upon completion of the dissertation defense, students should schedule a meeting with the Program Chair. The purpose of this meeting is congratulatory as well as information-seeking. The department is committed to the quality of its graduate program, and the advice and experiences of successful students are valued.

Progress Report Format

Part A will be no longer than 2 pages, (could be just over 1 page)

1.
 - a. Your name
 - b. Your program (MS or PhD)
 - c. Your track (Entomology or Insect Science)
 - d. When you arrived
 - e. When you expect to finish
 - f. Awards/Funding sources from the past academic year
 - g. Your major advisor
 - h. The names of the members of your graduate committee (if you have one)
 - i. The last time your graduate committee met (if they have met)
 - j. If in a PhD program: Have you passed your comprehensive examinations?
 - k. Your current grade point average
 - l. Have met your 1 semester teaching requirement, or equivalent?
 - m. Have you met your speaking requirement?
(Note: Close to finishing students whose committee has not insisted on a teaching experience and/or speaking experiences may be exempt, but let us know anyway)
2. A paragraph summary of the thesis/dissertation research project (even if preliminary). Please write this for educated non-specialists (i.e. not just for your advisor).
3. Goals of the past calendar year (from last year's report), and a discussion of how those goals were met, or not met, and if the latter, why not. If you are a first year student, or haven't submitted one of these before, you may have to think back on what your goals were, exactly.
4. Goals for the next twelve months. These should be two to five concrete statements, and should include research objectives as well as other aspects of progress in your program. (Some hypothetical goals for different students could be: Form a committee and have a committee meeting, Collect a second season of field data on the effect of stress on whitefly population dynamics, Finish coursework requirements, or Submit draft of master's thesis to committee). Try to make them realistic, because these goals will be measured against your progress at the end of next year.
5. (optional) Other things that you think pertinent.

Part B

A current 2 page CV that should include contact information, education, experience (academic work/research/teaching), awards and honors, service/activities, presentations, and publications. There is no proscribed format - you can use the format you prefer. However, please highlight (with the Microsoft Word highlight function, with an asterisk or in bold) the awards, presentations, TAs, or publications of the past year.

Entomology and Insect Science Courses, ENTO and EIS Courses

ENTO 300 - IMP/DESERT CROPPING SYST (3)
ENTO 310 - LIVING IN SYMBIOSIS (3)
ENTO 401 – ECOLOGICAL PHYSIOLOGY (3)
ENTO/V SC 403L - PARASITOLOGY LABORATORY (1)
ENTO/V SC 403R - BIOLOGY ANIMAL PARASITES (3)
ENTO 415L - INSECT BIOLOGY LAB (1)
ENTO 415R - INSECT BIOLOGY (3)
ENTO 446 – INSECT PATHOGENS (4)
ENTO 468 - INSECT PEST MANAGEMENT (3)
ENTO 499 - INDEPENDENT STUDY (1-5)
ENTO 499H - HONORS INDEPENDENT STUDY (3)
EIS 501 - ECOLOGICAL PHYSIOLOGY (3)
EIS/ V SC 503L - PARASITOLOGY LABORATORY (1)
EIS/V SC 503R - BIOLOGY ANIMAL PARASITES (3)
EIS/MCB 512A - BIOL ELECTRON MICROSCOPY (5)
EIS 515L - INSECT BIOLOGY LAB (1)
EIS 515R - INSECT BIOLOGY (3) *Required Course*
EIS 517 - INSECT SYSTEMATICS (4)
EIS 520 – INSECT SYSTEMS BIOLOGY (3) *Required Course*
EIS/ECOL 544 - INSECT ECOLOGY (3)
EIS 546 - INSECT PATHOGENS (4)
EIS/ECOL 567 - POLLINATION ECOLOGY (2)
EIS 568 - INSECT PEST MANAGEMENT (3)
EIS/NRSC 588 - PRIN CELL + MOLEC NEUROBIO (4)
EIS 596A – ENTOMOLOGY (SEMINAR) (1) *Required Course*
EIS 599 - INDEPENDENT STUDY (1-4)
EIS 693 - INTERNSHIP (1-3)
EIS 694 - PRACTICUM (1-6)
EIS 699 - INDEPENDENT STUDY (1-3)
EIS 700 - METH IN INSECT SCIENCE (3)
EIS 900 -RESEARCH (1-8)
EIS 909 -MASTER'S REPORT (1-3)
EIS 910- THESIS (1-8)
EIS 920 – DISSERTATION (1-8)

Current Program Faculty

Paul Baker, Extension Specialist, Department of Entomology
Judith Becerra, Associate Research Professor, Biosphere 2
Judith Bronstein, Professor, Department of Ecology & Evolutionary Biology
Judith Brown, Professor, Department of Plant Sciences
Yves Carriere, Professor, Department of Entomology
Andrew Comrie, Professor, School of Geography and Development
Goggy Davidowitz, Assistant Professor, Department of Entomology
Golria DeGrandi Hoffman, Adjunct Scientist, USDA Carl Hayden Bee Lab

Anna Dornhaus, Associate Professor, Department of Ecology & Evolutionary Biology
Peter Ellsworth, Extension Specialist, Department of Entomology
Kacey Ernst, Assistant Professor, College of Public Health
Dawn Gouge, Associate Specialist and Associate Professor, Department of Entomology
Wulfila Gronenberg, Associate Professor, Department of Neuroscience
Charles Higgins, Associate Professor, Department of Electrical & Computer Engineering
John Hildebrand, Professor, Department of Neuroscience
Martha Hunter, Professor, Department of Entomology
Xianchun Li, Associate Professor, Department of Entomology
Roger Miesfeld, Professor, Department of Chemistry and Biochemistry
Wendy Moore, Assistant Professor, Department of Entomology
Lisa Nagy, Professor, Department of Molecular & Cellular Biology
Alan Nighorn, Associate Professor, Department of Neuroscience
John Palumbo, Extension Specialist, Department of Entomology
Dan Papaj, Professor, Department of Ecology & Evolutionary Biology
Michael Riehle, Associate Professor, Department of Entomology
Linda Restifo, Professor, Department of Neuroscience
Robert Smith, Associate Professor, Department of Entomology
S. Patricia Stock, Professor, Department of Entomology
Nicholas Strausfeld, Professor, Department of Neuroscience
Bruce Tabashnik, Professor, Department of Entomology
Kathleen Walker, Assistant Professor, Department of Entomology
Bruce Walsh, Professor, Department of Ecology & Evolutionary Biology
Diana Wheeler, Professor, Department of Entomology
Noah Whiteman, Assistant Professor, Department of Ecology & Evolutionary Biology
Joy Winzerling, Professor, Nutritional Sciences
Konrad Zinsmaier, Professor, Department of Neuroscience

Updates (Handbook and Web)

Please contact Rachael Mattull or Molly Hunter with any suggestions or additions to this handbook. Particularly let us know if you find a new scholarship or learn about a new resource on campus that you think may be useful for the other students in the program.

Please contact Rachael Mattull to make web site updates. She will contact you annually (usually during the summer months) and request that you review your current EIS web page and send her updates, but updates can be made throughout the year.

www.insects.arizona.edu

New and Current Students, other Useful Information

Degree Certification Ph.D. Forms from Mike Renning
mrenning@grad.arizona.edu

Required Forms (log in at <https://grad.arizona.edu/gc> and select Forms)

- Doctoral Plan of Study
 - Min. 36 units toward major, 9 toward minor (plus dissertation units)

- Specify minor if any (with approval signatures)
- Notes on Doctoral Plan of Study: <http://grad.arizona.edu/degrecert/dpos>
- Application for Oral Comprehensive Examination
 - Committee: min. 4 members, including at least 3 tenure-track UA faculty
 - Student advanced to doctoral candidacy after exam
 - Candidacy and dissertation processing/archiving fees charged to Bursar's account upon advancement
- Committee Appointment Form
 - Informs Graduate College of planned dissertation committee, dissertation title, and graduation term
 - If using human/animal subjects, provide evidence of IRB/IACUC approval
- Announcement of Final Oral Examination
 - Dissertation committee: min. 3 tenure-track UA faculty
 - Final step after defense/approval by committee: Submission of dissertation to Graduate College for archiving.

Other Forms (<http://grad.arizona.edu/forms>)

- Graduate Petition
- Leave of Absence request
- Evaluation of Transfer Credit

Key Policies

- Continuous enrolment
 - At least 3 graduate-level units every Fall and Spring until (a) coursework on Plan of Study is complete, (b) comprehensive exams passed, and (c) min. 18 dissertation units taken. Then 1 unit per term.
 - Summer: If using University facilities or faculty time, min. 1 unit (in either Summer session).
- Time allowed to complete degree
 - 5 years from term when Oral Comprehensive exam is passed

Note: Please familiarize yourself with the Graduate College policies for doctoral students. These policies are at: <http://grad.arizona.edu/academics/program-requirements/doctor-of-philosophy>.

Other Online Resources

- My Grad Coll (<https://grad.arizona.edu/gc/>): Log in with Net ID to access forms. Forms must be generated and printed for signatures (i.e. they are not submitted online).
- Degree Certification site (<http://grad.arizona.edu/degrecert/>):
 - Steps to Degree: required steps to take with Graduate College
 - Notes on Plans of Study
 - Samples and Templates for dissertations
 - Commencement info and tentative program
 - Graduation Deadlines by Term
 (<http://grad.arizona.edu/academics/degree-certification/deadlines-for-graduation>)
- Dissertation Formatting Manual (<http://grad.arizona.edu/academics/degree-certification/diss-theses/manuals>)

Listservs

EIS Graduate Student: you will be added to the listserv upon enrollment in the program. You can use this listserv to send an email out to all the graduate students in the program by sending an email to entograde@listserv.arizona.edu. This is a great resource when you have questions, need help with a project, or otherwise want to contact the grad students.

Center for Insect Science: Contact Teresa Kudrna (tkudrna@email.arizona.edu) to be added to this listserv if you haven't been added already.

Entomology Department: As an EIS student, you are automatically added

EEB: The Drift, EEB's weekly newsletter http://eebweb.arizona.edu/drift/drift_signup.htm

UA High Performance Computing (HPC): if you are using the supercomputers

Institute of the Environment <http://portal.environment.arizona.edu/listerv-signup>
To become an IE affiliate, go to <http://www.environment.arizona.edu/forms/faculty>

International Students: Students on a visa will be added automatically to this list, but other students interested in hearing about events for international students can contact isps@email.arizona.edu

Maryland Ecology Discussion Group (includes job/opportunities list), send an email to LISTSERV@listserv.umd.edu with the command 'SUBSCRIBE ECOLOG-L' in the email 'subject' and in the message as well.

University Hiking Club (Ramblers): sometimes have black lighting/insect collecting events organized through their mailing list <http://clubs.arizona.edu/~ramblers/>

Keys

<http://www.fm.arizona.edu/serviceareas/LocksandKeys/locksandkeys.cfm>

Please read the FM Key Issuance & Return Policy before requesting keys:

<http://www.fm.arizona.edu/documents/LocksandKeys/UA%20Key%20Issuance%20and%20Return%20Policy.pdf>

Key requests and Key desk paperwork is done by individual departments. Please contact your advisor to locate the key desk contact person.

Safety Training

All students should complete the online safety training via D2L

<http://risk.arizona.edu/training/index.shtml>

Travel Authorization

Any travel for university-related reasons should be recorded before the departure date using a Travel Authorization form. This is necessary for all travel that will be paid for with university funds and suggested for all off-campus travel. It alerts Risk Management to the travel plans for insurance purposes.

Start of semester fees

All students are responsible for paying the various UA fees charged on their bursars account. Log in to UAccess Student, click on the "Finances" tab and scroll down to "Account Summary". There, if you owe anything, you will see a break down of each charge. The fees may be due

before a tuition waiver and health insurance waiver (if applicable) is activated, this means that you may need to exclude the tuition charges from the amount owed on the bursar's account to calculate the actual amount owed. If you know your tuition is being taken care of, add up everything but tuition and pay this. Fee amounts vary and depend on the number of units taken that semester. They range from \$320-500, plus \$70 for international students. Students with Teaching or Research Assistantships will receive a credit to cover student only health benefits. This is a charge around \$650.00. If you know you're doing a TA or RA, don't include this amount when you are adding up your fees. This will be taken care up when you tuition waiver is entered. Please be sure to pay these fees by the first day of class each semester. If you do not pay them by that date, you will be charged a \$50.00 late fee.

Course add/drop

Courses for a letter grade can be added online through UAccess.

Non-letter grade units can be added using the Course Add/Drop form. Go to <http://registrar.arizona.edu/registrarforms> and click on "Change of Schedule form" to download an add form. This form is signed by your advisor and submitted to Rachael Mattull by fax (520-621-1364), email (rmattull@email.arizona.edu) or in person to her office (Gould-Simpson 1005). **The registrar's office also has the ability to make registration changes. They are located in the Administration Building.**

Non-letter grade enrollment can consist of independent study, rotation, or research units (including dissertation and thesis). EIS 920 Dissertation Research (PhD students) is if you are working on the research specifically for your dissertation, regardless of whether or not they have taken comprehensive exams. Masters students take EIS 910 Thesis Research (MS students).

EIS 900 is general research so if you're just doing general research not specific to your dissertation, register for EIS 900. Either way, there is no difference in cost for these units. For both EIS 900 or EIS 910 you can register from 1-8 units and for EIS 920 you can register for 1-9 units. Extra units can be made up with Independent Study (EIS 699).

Lab/Desk Space

Your supervisor will assign you bench space in their laboratory. Students conducting research rotations may not be assigned individual bench space and instead may be assigned shared lab space for the duration of the rotation.

Your supervisor may also assign office space if there is some available. If your supervisor does not have adequate office space available, contact Rachael Mattull for office space assignment. [At the start of each academic year, the program will send an email to confirm that each student in the program has adequate office space, and work with students to find the most appropriate space.]

TA Information

Teaching Assistants/Associates must satisfy the following requirements:

GAT Orientation (GATO) All TAs must complete GATO. This orientation is a one-time requirement. A special section of this orientation is mandatory for international TAs. One can register for this orientation through the Graduate College's website.

More information about GATO is available here: <http://grad.arizona.edu/financial-resources/ta/gato>.

Information about a student's completion of GATO can be found in UAccess Student: Campus Community > Checklists > Person Checklists > Person Checklist Detail.

TA Training Online (TATO) A TA who completed GATO after spring 2007 must also complete TATO. The minimum passing score for the TATO examination is 95%. TATO is available through [D2L](#).

Should a student exhaust their number of attempts and not pass, their hiring department must review the training and complete the [TATO Remediation form](#).

More information about TATO is available at: <http://grad.arizona.edu/financial-resources/ta/tato>.

Information about a student's completion of TATO can be found in UAccess Student: Records and Enrollment > Transfer Credit Evaluation > Academic Test Summary.

Spoken English Proficiency An international TA from a non-English-speaking country must demonstrate fluency in spoken English. Various tests exist and a passing score on any one of these is sufficient. Previous attendance at an English-speaking institution **does not** satisfy this requirement.

Minimum Passing Speaking Evaluation Scores		
TBEST	TOEFL (Speaking section of IBT)	TSE/TAU/SPEAK
7	26	50

More information on the TBEST is available at: <http://grad.arizona.edu/financial-resources/ta/about-tbest>.

Information about a student's English proficiency examinations can be found in UAccess Student: Records and Enrollment > Transfer Credit Evaluation > Academic Test Summary.

Known TA Opportunities

Many EIS students have taken advantage of the TA opportunity in the Indirection Biology labs. If you think you might want to be a teaching assistant for Introductory Biology Laboratory (181L in Fall, 182L in Spring), send an email to Dr. Bruce Patterson (patterso@email.arizona.edu) in the first month of the previous semester to state your interest in teaching.

Entomology undergrad courses and GIDP TAs are available in some semesters. If interested, please contact Molly Hunter.

University of Arizona Insect Collection (UAIC)

Over one million pinned and identified insects are curated in the University of Arizona Insect Collection (UAIC) located on the fourth floor of the Forbes building next to the front offices of the Department of Entomology. The UAIC is a valuable resource for insect-related research projects and it is a great place to deposit voucher specimens resulting from your research. Collection tours, insect identification assistance, and loans of collecting equipment and insect-

related literature (books and journal articles) are also available. Contact Dr. Wendy Moore (Curator) and Carl Olson (Associate Curator) for more information about the UAIC.

<http://ag.arizona.edu/ento/faculty/moore.htm> <<http://ag.arizona.edu/ento/faculty/moore.htm>>

<http://ag.arizona.edu/ento/faculty/olson.htm> <<http://ag.arizona.edu/ento/faculty/olson.htm>>

Seminar Series of Interest

The Center for Insect Science hosts the Hexapodium twice per semester, along with a number of guest lectures. These announcements are sent by the CIS listserv.

Entomology: Thursdays at 4 PM (refreshments at 3:45) in room 230 of the Marley Building. Currently just the fall semester. Check the EIS website for the seminar schedule.

<http://insects.arizona.edu/seminars>

EEB: Monday at 4:00pm in the Marley Building, Room 230

http://www.eebweb.arizona.edu/news/monday_seminar_new.asp

EEB: Tuesday from 12:30-1:45pm in the Social Sciences Building, Room 222. These are often especially interesting because they are often given by students.

http://www.eebweb.arizona.edu/news/tuesday_seminar_new.asp

Neurobiology: Monday 12pm, Gould-Simpson 601

<http://www.neurobio.arizona.edu/seminars.html>

Poster printing

UA Library Express Document Center (Main Library Downstairs)

<http://www.library.arizona.edu/services/edc-list-of-services>

Reproductions, 234 E. 6th Street, Tucson, AZ 85705, 520-622-7747 Store Hours, 7:30am-6:00pm <http://www.reproductionsinc.com/index-10.html#LFC>

Vehicle Rental

The University of Arizona does have a motor pool with vehicles available for rent. Details are available online at <http://www.fm.arizona.edu/fm-dept/MotorPool.html>

University of Arizona fleet safety policy (<http://risk.arizona.edu/fleetsafety>).

All drivers of University vehicles or of private vehicles driven on University business must be registered and approved through Risk Management and Safety. This is accomplished using an on-line registration form available at <http://risk.arizona.edu/MVD/MVDForm.shtml>. Risk Management and Safety maintains a driver database of all registered drivers and their approval status.

Meeting Rooms

Sign-up books to use the 7th Floor Meeting Room (Marley 741H), Entomology Classroom (Forbes 412) and Entomology Library (Forbes 403E) are located at the Entomology office front desk. The Forbes Classroom (412) has a projector set up. These rooms can also be reserved by phoning the Entomology office staff (621-1151). The Gould Simpson Meeting Room 601 can be reserved by contacting Becca Van Sickler at beccav@email.arizona.edu. This room has a projector and has kitchen access.

For other rooms on campus use the online room request form:
<http://registrar.arizona.edu/rooms.htm>

Presentation Equipment Rental

Projectors and other equipment can be rented through CALS. Sign up electronically and collect the equipment between 8 am-12:30 pm or 2 pm-5 pm from Room 205 in Saguaro Hall. They can also provide the connectors for linking the projector to the laptop.
<http://cals.arizona.edu/ecat/multimedia/request.html>

The Entomology Classroom (Forbes 412) and the Gould Simpson Meeting Room 601 have permanent projectors.

UITS also offers equipment rental. For more details, visit their website at
http://uits.arizona.edu/services/instructional_technology

Photocopier

The libraries and student union have printing/copying facilities.

Computer Support

Entomology: Kameron Egthesadi agr456@email.arizona.edu

OSCR: <http://www.uits.arizona.edu/departments/oscr>

Computer Service Center in the Bookstore: www.uofabookstores.com/uaz/ComputerService

Statistics Support

Students are encouraged to take the course Applied Biostatistics.

UITS statistical consulting <http://uits.arizona.edu/services/statistical-consulting>

Statistical advising is sometimes available, depending on when the course is being run: Faculty and graduate students in the Statistics and Biostatistics programs offer free statistical advice to University of Arizona faculty, staff, and students. This support is offered through the Statistical Consulting Course (CPH 685), and is available via 1 hour scheduled appointments. The consulting team will be composed of graduate students with a PhD mentor. We provide assistance in multiple areas of statistical practice, including:

- choice and application of statistical methods
- design of studies and experiments, including sample size calculation
- data visualization and presentation
- interpretation of analysis results
- preparation of grant proposals

We have expertise with R and SAS, and can provide assistance with most statistical software packages. Statistical help is available through this program during the Spring 2010 semester. We can help with small data analysis projects and sample size calculations. More involved projects will be referred to the Statistics Consulting Lab.

To schedule an appointment contact:

Juli Riemenschneider, Program Coordinator, Statistics Consulting Lab,
jriemen@arizona.edu

SafeRide

Provides transportation too and from locations within a 1 mile radius of campus on Sunday – Friday nights. http://saferide.asua.arizona.edu/Safe_Ride/Home.html

Meals

You can create a meal plan that's right for you. The meal plan office has several options that can allow you to add money to your cat card to use at restaurants on campus at a discount (no tax). More details are listed on their website, <http://union.arizona.edu/mealplans/>

Student Housing Resources

University housing site (<http://offcampus.arizona.edu/>)

Craigslist (<http://tucson.craigslist.org/>)

La Aldea, the graduate student dorms (<http://www.life.arizona.edu/home/graduate-housing/>)

Arizona Daily Wildcat Classifieds, <http://www.wildcat.arizona.edu/classified>

**GIDP ENTOMOLOGY AND INSECT SCIENCE
LABORATORY ROTATION (EIS 700)**

- Each student must take one or more research rotations (two or more for the IS track, see handbook), which count towards the 36 units of EIS courses, in the first year in the Program.
- The required course, **Methods in Entomology and Insect Science (EIS 700)**, provides a formal mechanism for these rotations (Use the rotation host's section number for registration). You may enroll in a maximum of three units of rotation credit per semester. Each rotation is approximately 8-16 weeks in duration, with about 10 hours of work expected per week in the lab.
- Although EIS 700 provides a formal mechanism for laboratory rotations, there is no set format for a given rotation project. Rotation projects should be designed by both the student and the rotation host to achieve specific goals for student development and expected outcomes from the project.
- Submit this completed form to Rachael Mattull before or within one week of beginning the rotation.

To be completed by Student & Rotation host:

Student Name:			
Degree Program: (check one)		M.S.	Ph.D.
Rotation Number (check one)	Rotation one	Rotation two	Rotation three
Rotation Start Date:		Estimated Rotation End Date:	
Rotation Host:			
Project Description:			

Return completed form to Graduate Coordinator, Rachael Mattull (Gould-Simpson 1005) within one week of beginning the Rotation.

List the goal/s and expectations of this rotation (rotation goals vary so please describe the goal of *this* rotation, I.E. to learn a technique, to complete one or more experiments, etc.)

If the goal/s aren't met or can't be met due to circumstances, please indicate your exit strategy. (I.E. a suggested time limit, grade outcome, etc.)

Student Signature

Rotation Host Signature

Chair of Graduate Program Signature

Return completed form to Graduate Coordinator, Rachael Mattull (Gould-Simpson 1005) within one week of beginning the Rotation.