Department of Ecology, Evolution,
and Organismal Biology

Graduate Student Handbook

Fall 2010

IOWA STATE UNIVERSITY

Foreword

Welcome to the Department of Ecology, Evolution, and Organismal Biology.

This student handbook is intended to provide you general guidance regarding the organization and operation of the EEOB department. Because EEOB continually seeks to improve graduate education, some changes may occur between annual printings of this handbook. Changes will be posted to the EEOB website at www.eeob.iastate.edu/graduatestudents/index.html. In addition to this student handbook, you should also carefully review the student handbooks of your major for a better understanding of your academic requirements.

This department, as a part of the university is ultimately a servant of the people of Iowa, with a particular role to play in education and research, and accompanying obligations and responsibilities. Everyone in the department helps in fulfilling these obligations, some as students, teachers and research workers, others doing all of the indispensable behind-the-scenes work without which the reagent shelves would be empty, the instruments and equipment obsolete, and the manuscripts unpublished. It is a complex community, with some 125 people devoting to it their full working time and several hundred additional undergraduates involved to varying extents. We welcome you as a new member of the department and seek your cooperation and assistance in its successful operation.

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Introduction

Department of Ecology, Evolution, and Organismal Biology

The Department of Ecology, Evolution, and Organismal Biology (EEOB) is committed to providing excellent opportunities for research-focused graduate study as a major objective of its educational mission. Faculty within the department study biological systems at various scales of organization, utilizing current methodologies and integrative approaches to understanding the complexity of the living world.

A primary goal of the Department is to provide a fertile intellectual environment to students pursuing both MS and PhD degrees, enabling them to conduct independent research resulting in a thesis or dissertation. The Department provides graduate courses to enhance advanced education in the biological disciplines related to its mission. With an excellent faculty, a diverse graduate curriculum, and a wide range of facilities to conduct research, ample opportunities are available for students to participate in state-of-the-art scientific investigation. In addition, the Department is committed to undergraduate education in biological sciences, and thus provides substantial development opportunities to our graduate students in the art of teaching biology. The Department fosters professional development of graduate students through faculty-student collaboration in research and teaching, departmental seminars, and participation in professional society activities.

The Department works in concert with several interdepartmental graduate majors to support graduate study, both administratively and financially. Faculty in EEOB actively participates in several interdepartmental graduate majors offered by Iowa State University. The EEOB faculty philosophically endorse the concept that all graduate students should be financially supported during their course of study. Financial resources for stipends, scholarships, and expenses associated with research and professional development may come from a variety of sources. Financial support may be provided through special University or extramural fellowships, research assistantships associated with extramural grants obtained by faculty, and Departmental funds expended for teaching assistantships and other forms of graduate assistance. An expectation of all students is that they continually demonstrate significant and timely progress toward the completion of their advanced degree.

Relationship between the Department of EEOB and Your Major

The Department of EEOB is responsible for your employment, is the departmental home of your major professor, office, and other facilities, and most importantly, is responsible for the administration of your financial (i.e. stipend and tuition scholarship) support and grant processing.

Your major provides you with your academic requirements. In addition, the Director of Graduate Education (DOGE) for your major must sign your academic forms, such as your committee request and graduation form.

Administration and Contact Information

Activities within the Department of Ecology, Evolution, and Organismal Biology are overseen by the Chair. Please contact us if you have any questions about EEOB.

EEOB Office
253 Bessey Hall
515-294-0133
eeoboffice@iastate.edu
www.eeob.iastate.edu
fax: 515-294-1337

Department Chair
Jonathan Wendel
(515) 294-7172
jfw@iastate.edu

Graduate Student Committee Chair
William Clark
(515) 294-5176
wrclark@iastate.edu

Upon Arrival at Iowa State University

The following items are important first steps to beginning your study at Iowa State University. Please review this list carefully.

- ❑ **Non-United States Citizens – Complete Form I-9**
  International Students & Scholars (3248 Memorial Union)
  Submit the completed form to the Department of Human Resource Services, Records Management (3810 Beardshear)

- ❑ **Payroll- Required for those students on an assistantship from ISU**
  Department of Human Resources, Records Management Office (3810 Beardshear)
  At this time the student will fill out an I-9 form "Employment Eligibility Verification", State and Federal W-4 forms, Employment Information/ Equal Opportunity form, and Direct Deposit/Address form.

- ❑ **University ID**
  0530 Beardshear
  Pictures are taken Monday thru Friday, from 8:00AM to 4:15PM (during regular business hours). Students, faculty, staff, and retirees all receive their first ISUCard for free. Affiliates (including spouses) of the University will be charged an annual fee of $10. Replacement of lost ISUCards will cost students $20, while faculty and staff can obtain one free replacement for lost, stolen, or damaged cards each fiscal year. The free replacement for everyone uses the photo already on-file, while a $20 fee is charged for retaking an individual's photo.

  The ISUCard carries your university ID number and photo. Your university ID number is not the same as your social security number, though some university departments may request your social security number.

  The ISUCard verifies your status as an ISU student, faculty or staff member and provides access to university services and facilities, such as AccessPlus and the Lied Recreation/Athletic Facility. The ISUCard is your passport to ISU Library services.

  You have the option of making your ISUCard your ATM card by opening a checking account at U. S. Bank. Optional overdraft protection is available. If you choose to make your ISUCard an ATM card through U. S. Bank, it can be used at ATM machines, the University Book Store and other merchants where you see the SHAZAM or PLUS symbols displayed.

- ❑ **NetID/Email**
  Current Iowa State University students and full-time faculty and staff must have a university Net-ID and email account. To register for a Net-ID, go to Net-ID Services (https://asw.iastate.edu) and click the "Register" button. You will need your ISUCard. If you have any questions about your Net-ID or email address,contact the Solution Center at 515-294-4000.

  Several applications are available to let you read, send, and manage email from your university account.

- **CyMail** is Iowa State University's implementation of Google's Gmail system for students. It provides email, calendaring, website creation, and online document editing in an integrated environment.

- **Eudora** is an email program that allows you easy access to your university email account.

- **Microsoft Outlook** also can be used with Iowa State's email system if SideCar (authentication software) is installed. If you have Outlook installed on your computer and would like to use it as your email program, go to downloads (http://www.it.iastate.edu/downloads/) and install SideCar.

  You also may use Outlook if you are faculty or staff with an Exchange email account through Information Technology Services (ITS) or through your college or department. If so, you also may have the option to check your email remotely via Outlook Web Access (OWA). For questions about your Exchange email account, contact ITS at 515-294-8034, or your college or department IT coordinator.

❑ **Keys**
EEOB Departmental Office (253 Bessey Hall)
In order to receive the necessary keys, please see the EEOB Administrative Specialist.

❑ **Mail**
EEOB Departmental Office (253 Bessey Hall)
Please see page 9.

❑ **Contact Information**
EEOB Departmental Office (253 Bessey Hall)
In order to keep the EEOB Directory current, please see the EEOB Program Assistant regarding contact information.

❑ **Parking**
Department of Public Safety (168 Armory Building)
Those who drive to campus on a daily basis have a few options:

- Commuters can register their cars and apply for a permit for one of the two commuter lots on campus. One lot, 29, is located north of Molecular Biology and lot 29B is across Stange from Frederiksen Court.
- Commuter Lot at Iowa State Center
  Commuters can park at the parking lots at the Iowa State Center for free and take Cy-Ride's Orange Route into campus. Cars cannot remain in the Iowa State Center lots past 10:00 p.m.
- Paying on Campus
  Commuters have the option of paying to park each time they come to campus. Pay-by-the-hour machines are available in lot 100 on the east side of campus and lot 21 on the west end. There are also meters in some of the lots, but carefully read the signs and meters as some have time limits that do not accommodate classes.

- **Health and Dental Insurance**
  All graduate students are eligible to enroll in the ISU Students and Scholars Health Insurance Plan (SSHIP). Graduate assistants receive single student health insurance coverage free-of-charge as part of the terms of their appointments and may choose to enroll spouses and children in the plan for an additional premium. Informational packets about the insurance program are normally mailed out the first week of August. Enrollment is automatic for assistants; however, students who do not hold assistantships, spouses, and children must be enrolled by the established deadline. See the program Web site below for this date. Non-immigrant international students and their dependents must be enrolled in the health insurance program. Dental insurance coverage is available for a fee. For full details on both plans and contact persons on campus, see the following Web site: http://www.hrs.iastate.edu/sship/homepage.html

- **Graduate Student Orientation**
  The ISU Graduate College provides an orientation program in the week before classes begin. The program includes information about university services and health and dental insurance. The Graduate and Professional Student Senate (GPSS) also sponsors a picnic for new graduate students and their families. Check the Graduate College Web page for the times and locations of both events.
  ISU Graduate College Orientation Program – http://www.grad-college.iastate.edu/applying/newstudentorientation.html

  In addition, please contact the office of your major regarding any additional orientations provided by your program.

- **Laboratory Procedures and Safety Training**
  All students and staff who work in laboratories at ISU must undergo laboratory procedures and safety training administered by the ISU Environmental Health and Safety (EH&S) office. Before you begin lab work, please discuss your training needs with your faculty advisor, lab supervisor, or the safety officer in your respective department. Some training sessions may be completed on-line via the EH&S training Web site, while others require attendance.
  Environmental Health and Safety – http://www.ehs.iastate.edu/cms/default.asp?=articles&ID=304

  Many students work in laboratories where they may be exposed to hazardous chemical or biological agents. Iowa State University not only provides training but you may also wish to participate in the Occupational Medicine Program (http://www.ehs.iastate.edu/cms/default.asp?action=article&ID=59).

  Through Occupational Medicine you and your supervisor can avail yourself of emergency services, arrange for inoculations to disease (e.g. rabies) and baseline physical examinations.

- **English Requirements for Non-Native Speakers**
  Graduate students who are non-native speakers of English must demonstrate to the Graduate College their English language proficiency as part of their degree requirements. There are two means by which this may be done.

1. Graduate students whose native language is not English and who do not have a Bachelor's degree from ISU or another US institution must take the English Placement Test at the beginning of their first semester of enrollment. This test is administered by the Department of English ESL office.
2. Graduate students whose native language is not English and who have graduated with a Bachelor's, Master's, or PhD degree from a US college or university where the language of instruction is English may request certification of their English proficiency by submitting a completed copy of the form "Request for the Graduate College to Approve the Graduate English Requirement for a Student Whose Native Language is NOT English," available at http://www.grad-college.iastate.edu/forms/files/EnglishRequirement.doc

SPEAK/TEACH Testing is required of graduate students who are not native speakers of English before being appointed to Teaching Assistantships or who will have teaching responsibilities. The SPEAK/TEACH tests of oral proficiency are given before the beginning of fall and spring semesters.

Please contact the appropriate office below to schedule your test date.
Department of English ESL Office
http://www.grad-college.iastate.edu/about/englishexam.html
SPEAK/TEACH Program Office
http://www.grad-collge.iastate.edu/speakteach/homepage.html

- ❑ **Class Registration**

Contact your faculty advisor for direction on the appropriate courses to select for your degree plan. To begin your program of study, you must register for classes. Students on an assistantship are required to register as full time students (9 credit hours during fall and spring semesters, 5 credit hours during summer semester). You will need to consult the current semester schedule of classes to obtain meeting time and location information. The following two links will provide this information

General Scheduling information – http://www.iastate.edu/~catalog/schedule/
Search-for-classes – http://classes .iastate.edu

Registration at Iowa State is accomplished through a secure, administrative Web site called AccessPlus.

AccessPlus log-in URL – https://accessplus.iastate.edu/frontdoor/login.jsp

Helpful Hints

- For information about such topics as Wireless access, IT Solution Centers, and Computer Services visit http://www.it.iastate.edu/newstudents/.
- AccessPlus is your online resource for accessing your important university information and services. Depending on the date your Electronic Personnel Action (EPA) form was submitted, you may not have access immediately to AccessPlus.
- WebCT is an e-learning system used for online and classroom courses. A link to WebCT is located on the Iowa State University homepage.

Administrative Matters

Administrative Assistance

The main administrative office for EEOB graduate students is the EEOB Departmental Office in 253 Bessey Hall. The office is open from 8:00 am to 4:30 pm Monday through Friday.

Communications

It is vital that students maintain good contact with EEOB personnel throughout their graduate program. There are a number of ways to do this.

Student Contact Information
The EEOB department maintains a record of each student's current email address, local home address and telephone number, as well as campus address and telephone number. It is important that students advise the EEOB office of any changes.

Email
Students should check email at least daily, as this is the primary means of keeping students informed about EEOB activities, as well as University announcements.

Internet
The EEOB website contains most of the information pertaining to the EEOB department and is updated regularly. Students should visit the website regularly at www.eeob.iastate.edu. This website does have a section of information for EEOB graduate students. Please see the Program Assistant for the username and password for obtaining access to this page.

Campus Mail Service
All EEOB graduate students have a mailbox in the EEOB office. U.S. mail and campus mail are received daily and distributed through the mailboxes outside the department office. A mailbox is provided for each graduate student. Outgoing mail may be placed in two trays inside the mailroom. There is a university policy that all mail addressed to an employee will be delivered by the University Campus Mail Service, but this service should be used only for the transmission of official university business. Use of the service for personal correspondence is **not allowed**. U.S. postboxes are located across the street from Bessey Hall. Postage is provided by the department for business mail.

Telephone
Local phones for incoming calls are located in graduate student offices. The number of the phone nearest a graduate student's office will be listed in the departmental directory. Cooperation among graduate students is needed to answer these phones and page the individual being called. If incoming calls are received for graduate students, the call is transferred to the hall phone. A message is placed in the student's mailboxes in the event the call is not completed to the hall phone. Local outgoing calls may be made on the hall phones. Long distance calls are not permitted without the approval of the chair. If you have long distance calls related to your research, please consult with your major professor to use his/her phone.

Departmental Equipment and Facilities

(NOTE: DEPARTMENTAL FACILITIES ARE NOT TO BE USED FOR PERSONAL PURPOSES)

EEOB Office

The EEOB Office houses a copier/scanner, fax machine, paper cutter, mailboxes and mail supplies, hi-capacity stapler, shredder, binder, and other office equipment. For questions regarding the use of this equipment please see any member of the office staff. The copier/scanner requires a code for use. Please check with your major professor in regards to your copier code.

Graduate Student Office Shared Computer Equipment

A computer, scanner, and printer for shared use by EEOB graduate students is housed in 201 Bessey. Each person has an individual user account. At present, the password is the same as the user account. The password should be changed in first logging in (go to Control panel, Users, Change password, etc.).

The red notebook has a set of instructions, both for using the shared machine for scanning, printing, SAS, etc. and for setting up Open AFS (to get access to your AFS files) and setting up X-Win 32 or X11 on personal machines.

Equipment

EEOB maintains an inventory of of teaching and research equipment. Virtually all equipment within the department, regardless of whose laboratory it is in, is the property of Iowa State University. Equipment allocation has resulted from the particular needs of the laboratory in which it is found. In most cases, this system has worked because individuals who need and use a particular instrument usually take the best care of it. If something is needed for a certain project, the policy has been to "ask and ye shall find." Care and responsibility of "borrowed" equipment are assumed. User fees are assessed for some instruments. See the staff member in charge if you have questions regarding these or other items.

Storeroom Services

The storeroom is available for purchase of certain molecular biology products (enzymes, nucleic acids, etc.) and supplies for teaching and research applications. The storeroom staff maintains stocks of commonly used supplies, as well as audio/visual equipment used in the building. Also, hand tools and some power tools are available for checkout from the storeroom. Users are required to sign out items removed from the storeroom and to notify staff when the last of a stocked item has been taken. If you have any questions about the procedures, please contact the EEOB Departmental office staff (253 Bessey).

Invitrogen

The EEOB office stores a number of products for Invitrogen, which provides products and services that support academic and government research institutions and pharmaceutical and biotech companies. To purchase an inventoried product please see a member of the EEOB office staff to be set-up with cy-Buy access.

Cold Room

Two cold rooms are located on 4th floor. One (room 402) is primarily for use by the Department of EEOB. This is an active research facility with considerable usage. Coordination of activities is essential and only short-term storage of clean small samples is permitted.

Campus Equipment and Facilities

(NOTE: DEPARTMENTAL FACILITIES ARE NOT TO BE USED FOR PERSONAL PURPOSES)

Light Microscopy and Electron Microscopy

Located in the basement of Bessey Hall, the Bessey Microscopy Facility (BMF) (which is an ISU Biotechnology and Life Sciences Instrumentation Center) under the direction of Dr. Horner, contains a variety of equipment related to light and electron microscopy. This equipment can be divided into three categories based on use and management.

1. Electron microscopy (Horner)
Electron microscopes: TEM, SEM, STEM (rooms 1, 7)
Ultramicrotomes (1, 2B)
Knife makers (1, 2B)
Sputter coater, critical point apparatus and vacuum evaporator (1)
Negative darkrooms (1, 7)
Print Darkrooms (2A, 41)
Specimen prep rooms (2, 4, 5 and 6)
X-ray
Propane jet freezer (5)

2. Light microscopy and photo duplication (Horner)
Photomicroscope/CCD camera, color monitor (1)
Microspectrophotometer and fluorometer (41)
Bencher camera setup (41)
Print Darkrooms (2A, 41)
Macrodia setup (41)
Mounting press and tacking irons (3)
Autoradiography/In situ hybridization lab (39)
Scanner (3)

3. Paraffin and microtomy equipment (Horner)
Microtomes (2, 4)
Paraffin ovens (4)
Freezing microtome (2)

All of this equipment is available to all “qualified and approved” graduate students, staff and faculty by appointment (see below). "Qualified" implies an in-depth understanding of the use and care of the equipment. An individual may be considered qualified by demonstrating adequate previous training or by receiving instruction either individually or through a formal course [Horner BOT 679 (LM), 680 (SEM), 681 (TEM).
Charges are imposed on users of all equipment and materials at the current rate (see BMF charge sheets in Room 1).

All equipment and rooms listed are available by appointment (see in Room 1), generally from 8:00 a.m. to 5:00 p.m. Monday through Friday. This schedule is necessary for training, management, and security reasons. Frequent users have access to the BMF on a 24-hour per day, 7 days per week basis year around. Four computers are networked and connected to Internet/Ethernet as well as to image digitization equipment in Room 1. Slide making (via Powerpoint) and photography of images are possible. Use of this equipment is available on request and charged through a departmental account.

The basement teaching (2A) and research (41) darkrooms are not for general use.

All questions regarding the use of these facilities should be directed to Dr. Horner (Room 3A) or Ms. Tracey Pepper (Room 1).

Fourth Floor Common Use Equipment and Facilities

In cooperation with the Department of Plant Pathology, the following items of equipment and facilities are available for common use:

- Ultracentrifuge
- Liquid scintillation counter
- Spectrophotometer
- Autoradiography development
- Laminar flow hood
- Culture room
- Speed vac
- Autoclaves
- Ice machine
- Electroporation System
- Biolistic Transformation System

For information about using any of these, contact the CPRES staff in charge of the shared use facility on the fourth floor!

Autoclave Rooms and 4th Floor Autoclave Facility

Room 302 is equipped with two autoclaves. The walk-in cold room (302A) for temporary storage of field material; contact Plant Pathology for access to the cold room. The 4th floor autoclave room is located within the shared use facility; see staff for operating instructions prior to use.

Ada Hayden Herbarium

The Ada Hayden Herbarium contains over 400,000 specimens of vascular plants, bryophytes, fungi and lichens. The herbarium is housed in two rooms, 344 and 360. Entry into the herbarium is through room 344.

I. The Small Room (344) contains (from north to south):
   1. Legumes
   2. Grasses - general collection

3. Grasses - Subfamily Bambusoideae (the bamboos)

The reprint collection is also located in Room 344

II. The Main Room (360) contains (from north to south):

1. General Collection
   a. Fungi and lichens
   b. Ferns and fern allies
   c. Gymnosperms
   d. Angiosperms
      (1) Monocotyledons (except the grasses)
      (2) Dicotyledons (except the legumes)
   e. Algae
   f. Bryophytes

2. Anderson Alaskan Collection: This collection contains only Alaskan and Arctic plants.
3. Parry Collection: This valuable collection, rich in "type specimens," includes some of the first plants collected in the western United States. No additions are made to this collection.
4. Type Collection

The plant family is the major unit of filing in the herbarium. In the Anderson, Parry, and General Collections, the seed plants are arranged alphabetically by family (under Gymnosperms, monocots, or dicots). The genera of each family are arranged in alphabetical order under the family. The species are arranged alphabetically in each genus within each geographical region cited below. The species are usually in individual folders, although if we have fewer than 3 sheets of a species, they may be found in "A-Z" folders at the end of the genus. Within the A-Z folders, the sheets are in alphabetical order.

The color of the folder denotes in a general way the geographical origin of the specimens:

- Red folders indicate that the plants were collected in Iowa.
- White folders indicate that the plants were collected outside of Iowa but in the U.S. or Canada. Please note, though, that Hawaiian specimens are filed in blue folders.
- Blue folders indicate that the plants were collected outside of the U.S. or Canada. Hawaii is also included here.

The ferns are arranged systematically (by their relationships) rather than alphabetically. The bryophytes, lichens, fungi and algae are arranged alphabetically by genus and species, ignoring the families.

Who may use the herbarium:

The herbarium is available to all graduate students and faculty who know how to use it. If you have a special need to see materials that are not available here, the curator (Deb Lewis) may be able to borrow this material from another institution. DO NOT attempt to borrow material from other herbaria on your own.

If you haven't used the herbarium, please see either the director (Dr. Lynn Clark, room 345) or the curator (Deb Lewis, room 341A). If you have trouble locating something, see Deb Lewis or one of the people who works in the herbarium. In a "plant library" of this size, misfiling can present a serious problem. Valuable herbarium specimens may be lost for years. Therefore, if

you wish to use the facility but are not familiar with the operation of this herbarium, you should contact the director or curator for a tour and instructions for use. If you are unsure of your ability to re-file specimens, leave them on the table, and they will be re-filed for you.

Some rules of usage:

1. Be especially careful of herbarium sheets - handle them gently. Some of these are over 100 years old. If fragments do break off, place them in the small packet attached to the sheet. Never turn the sheets upside-down.

2. Do not remove any herbarium specimens or books from the herbarium without permission from the curator.

3. Do not remove fragments from the herbarium sheets, including the fragment packets, without permission from the curator.

4. Do not bring unfumigated (living or dead) plants into the mounting room (342) or the herbarium. We presently have an insect-free herbarium and would like to ask your help in keeping it this way.

5. Keep the doors to the herbarium cases closed when not in use.

Richard Pohl Conservatory

1. Policies and general procedures for operation of the greenhouse will be established by the Facilities Committee, the Conservator (Dr. Jonathan Wendel), and the greenhouse supervisor (Steve Mahoney). Routine operation of the greenhouses will be the responsibility of the greenhouse supervisor.

2. Staff members requiring greenhouse space or needing plants to be grown are to consult with the greenhouse supervisor.

3. It is important that persons having research materials in the greenhouse keep watch over them. The greenhouse staff will provide routine watering and care but cannot be responsible for special experimental treatments. The greenhouse staff generally will not weed, repot, stake, or trim research material.

4. The greenhouse supervisor will be responsible for safety of operation involving the use of pesticides, electrical wiring, etc. and will be concerned with possible building evacuation in cases of emergencies.

5. Some of the plants from the permanent collection may be borrowed for classroom use if approved by the Conservator. Because of their high cost and the difficulty of maintenance, they should be carefully tended and watered during their stay in the laboratories, and should be covered with bell jars or similar protective covers to prevent desiccation. If it is necessary for laboratory teachers to gain access to the greenhouse after hours, keys are available for checkout through the Physical Plant. The elevator will be locked after hours and weekends, but can always be called to the greenhouse level from lower floors by use of the call button in the greenhouse.

6. All people should clean up their mess after they are done potting or repotting plant material. This would include disposing of old plant material (especially when grown for a lab course) in the provided trash cans next to the potting benches.

7. Pots which have been steamed are available under each potting bench.

ISU GIS Lab

The GIS Support and Research Facility is a public computing facility established to support the use of geographic information system (GIS) technology at Iowa State University. The mission of the facility is to provide a high level GIS research support laboratory for students, faculty and staff as well as to provided GIS education and outreach to the ISU community and the state of Iowa. For more information visit http://www.gis.iastate.edu/.

DNA Facility

The DNA Facility of the Iowa State University Office of Biotechnology provides research support services for investigators within academia, industry, and government. The DNA Facility is committed to providing quality service in a consistently rapid, dependable, and economical fashion. For more information visit http://www.dna.iastate.edu/mainpage.html.

Central Stores

Central Stores Carries over 6500 items used by the university, state and county extension services, and other state organizations. For more information visit http://www.public.iastate.edu/~centrals/.

Chemistry Store

Chemistry Stores is the place where all campus personnel purchase chemicals, glassware, scientific apparatus and equipment. They stock lab coats, dry ice, and a variety of merchandise too numerous to mention. All campus departments order their gas cylinders, gas mixes, and high purity gases from Chemistry Stores. For more information visit http://www.chem.iastate.edu/services/stores/services.html.

Library Services

To learn more about the Parks Library and its services visit http://www.lib.iastate.edu/.

Printing and Copy Services

Printing & Copy Services provides all printing-related functions to academic, administrative and support departments; faculty members; staff-affiliated organizations; and students. These services include digital reproduction, full-color copies, large format color printing, offset printing, computer publishing, finishing, and mailing. For more information visit http://www.print.iastate.edu/about.shtml.

Recreation Services

The ISU Recreation Services provides students with 7 facilities, including Lied Recreation Athletic Center, Beyer Hall, and State Gym. In addition, Outdoor Recreation Services offers workshops, classes, weekend and extended trips, as well as equipment rental. For more information visit http://www.recservices.iastate.edu/.

Professional Ethics

It is imperative that you understand the ethical standards of science and conduct your scholarly activities accordingly. Scientists, who commit unethical acts, whether from carelessness, ignorance, or malice, lose the respect of the scientific community and/or are prevented from practicing science.

Ethical misconduct includes such activities as:

- Falsification and/or fabrication of data
- Deceptive and/or selective reporting of results
- Purposeful omission of conflicting data, with the intent to falsify results
- Plagiarism, including representation of another's work as one's own
- Misappropriation of the ideas of others
- Unauthorized use of privileged information
- Misappropriation of funds or resources for personal gain
- Falsification of one's credentials

At ISU, these acts are taken very seriously and constitute "academic misconduct". Individuals found guilty of academic misconduct may suffer a variety of penalties, up to and including expulsion from the university.

Occasionally, you may be faced with situations in which you are tempted to act in a manner you think might be unethical. If this occurs, we recommended discussing the situation with your faculty advisor, or another faculty member whom you trust, to determine whether the actions you are considering are unethical. S/he should be able to provide reasonable counsel.

Unfortunately, not all people understand or care about ethical issues and, at sometime in your career, you may be witness to an act you believe to be unethical. When the individuals committing the presumed unethical acts are members of your own laboratory, or worse yet, individuals with power over you, such as your faculty advisor, the situation can be very awkward and you must proceed cautiously. You will find yourself torn between a fear of retribution and a desire to stop the unethical behavior before it hurts you and other members of your laboratory.

If you believe that unethical behavior is going on in your laboratory, we recommend that you first attempt to discuss the situation informally with the person whom you think might be behaving unethically. Sometimes friendly questions will resolve the problem.

If you feel uncomfortable in this approach, or if you have tried this approach and it didn't resolved the problem, we recommend that you discuss the situation informally with a professor whom you trust. You may also go directly to the chair of EEOB. All discussions are considered confidential.

Nondiscrimination, Affirmative Action, and Sexual Harassment

http://policy.iastate.edu/policy/discrimination/ - Discrimination and Harassment Policy
http://www.hrs.iastate.edu/AAO/assistors.shtml - Discrimination and Harassment Assistors

Iowa State University prohibits discrimination, which can include disparate treatment directed toward an individual or group of individuals based on race, ethnicity, sex, pregnancy, color, religion, national origin, physical or mental disability, age (40 and over), marital status, sexual orientation, gender identity, status as a U.S Veteran (disabled, Vietnam, or other), or other protected class, that adversely affects their employment or education. For religion or disability, the law allows employees and students to request reasonable accommodations to continue their work or studies.

Iowa State University also prohibits harassment, which can be a form of discrimination if it is unwelcome and is sufficiently severe or pervasive so as to substantially interfere with a person's work or education. Harassment may include, but is not limited to, threats, physical contact or violence, pranks, jokes, epithets, derogatory comments, vandalism, or verbal, graphic, or written conduct directed at an individual or individuals because of their race, ethnicity, sex, pregnancy, color, religion, national origin, physical or mental disability, age, marital status, sexual orientation, gender identity, or U.S. veteran status. Even if actions are not directed at specific persons, a hostile environment may be created when the conduct is sufficiently severe, pervasive or persistent so as to unreasonably interfere with or limit the ability of an individual to work, study, or otherwise to participate in activities of the University.

It is the University's goal to prevent the occurrence of discriminatory and harassing activity and to promptly stop such conduct. While grounded in state and federal non-discrimination laws, this policy may cover those activities which, although not severe, persistent, or pervasive enough to meet the legal definition of harassment, are inappropriate and unjustified in an educational or work environment. This policy will be interpreted so as to avoid infringement upon First Amendment rights of free speech. The University must be mindful of the tradition of academic freedom that includes the free exchange of ideas inherent in an academic community. A determination as to whether discrimination or harassment has occurred will be based upon the context in which the alleged conduct occurs.

Academic Matters

Admission

The Department of EEOB offers M.S. and Ph.D. degrees with a number of areas of specialization and several majors. Admission to the graduate program depends upon review of applications by graduate faculty in the area of interest, by a diverse Graduate Studies Committee, by the department chair, and by representatives of the dean of the Graduate College. Applications are reviewed by a committee in both the major and the department. All of these individuals consider the following criteria before recommending admission:

Supplied by applicant:

- A B.S. or B.A. degree in life sciences from an accredited college or university;
- Official Transcripts;
- Letters of recommendation;
- GRE scores for all applicants, and TOEFL or IELTS scores for foreign students (500 minimum);

- A statement of educational goals from the applicant;

Also considered by admission process:

- Availability of an appropriate major professor with interests and expertise in the student's area of interest;
- Availability of funding for financial support of student
- Availability of space and facilities.

Students completing masters degrees at ISU and wishing to continue on with a Ph.D. must apply to the department and major.

Interdepartmental Programs and Course Requirements

EEOB offers graduate work leading to both a Masters of Science (M.S.) and a Doctor of Philosophy (Ph.D.) degrees. EEOB students major in one of several interdepartmental majors including:

- Bioinformatics and Computational Biology (BCB)
- Ecology and Evolutionary Biology (EEB)
- Environmental Science
- Interdepartmantal Genetics (IG)
- Interdisciplinary Graduate Studies
- Neuroscience
- Toxicology
- Sustainable Agriculture

Please refer to the Graduate Student Handbook of your major to determine your course requirements.

Choice of Major Professor

For nearly all the interdepartmental majors, new graduate students in the Department of EEOB have chosen a major professor (with concurrence of the professor) as they are admitted to the major and department. In most instances this decision has been made through previous correspondence or through acceptance of a research assistantship with a specific professor; in these circumstances, the faculty member concerned usually assumes the role of major professor.

Some students, at the time of their first registration at Iowa State, have not yet decided in what area they wish to specialize. Such students may request a member of the graduate faculty to serve as temporary advisor, or one may be appointed for his/her first registrations. New students should visit within the disciplines in which they are interested to find a professor with whom they would like to work. Early selection of a major professor, appointment of the advisory committee, and development of a program of study are desirable.

The exception to this pattern is that first year graduate students who enter Interdepartmental Genetics (IG) or Bioinformatics and Computational Biology (BCB). These students are required to do laboratory rotations to help them choose their major professor. Please refer to the Interdepartmental Genetics or Bioinformatics and Computational Biology Graduate Student Handbooks for more information.

Progressing Through the Degree Program

(http://www.grad-college.iastate.edu/degree/earning.html)

Program of Study (POS) Committee

The Graduate College recommends that the committee be formed as early as the second semester of graduate study. After the POS committee has been selected, it guides and evaluates the student during the remainder of graduate study. Among the committee's duties are:

- reviewing periodically the progress of the student;
- advising a student during the development of the creative component, the thesis, or the dissertation;
- considering and approving the student's program of study as well as changes in the program of study.
- reading the creative component, thesis, or dissertation; and
- conducting the preliminary oral examination (for Ph.D. candidates) and the final oral examination (for M.S. and Ph.D. candidates).

Early selection of a major professor, appointment of a POS committee, and development of a program of study are very important. In no case can the committee be formed later than the term before the final oral examination or preliminary oral examination. To select a committee, the student must:

- obtain the "Recommendation for Committee Appointment" form from his/her program or from the Graduate College web site at http://www.grad-college.iastate.edu/forms/forms.html,
- gain the appropriate committee and program approvals, including the program's Director of Graduate Education (DOGE) of the major (see http://www.grad-college.iastate.edu/publications/gchandbook/appendixa.html), and
- submit the form for Graduate College approval.

A master's or doctoral degree student may occasionally have two or more major professors who serve as co-chairs of the POS committee. Co-chairs are required in the following instances:

- When a student has a co-major or joint major, each of the major fields must be represented by a different major professor, which will require the designation of co-major professors. However, the same person, if a faculty member in both majors, will be allowed to serve as major professor for both majors.
- When masters or Ph.D. work is administered through a program in which the largest share of course credits is taken, but the research is conducted or shared with another program or major and also supervised by a graduate faculty member in that program, both the masters or dissertation supervisor and a member of the graduate faculty from the program in which the degree will be granted can be designated as co-major professors.

An approved committee for a double degree must include co-major professors from each of the programs. Only certain programs have been approved for double degrees. Students seeking double degrees must clearly note that in the "Comments" section of the "Recommendation for Committee Appointment" form.

If a term (temporary) member of the graduate faculty is chosen as major professor for a POS committee, a co-major professor who is a member of the graduate faculty must also be identified.
If a major professor resigns or retires from the university, he/she may continue to serve, but a co-major professor who is a member of the graduate faculty must also be identified.
In all cases where there are co-major professors, both must sign on all required forms to be submitted to the Graduate College.

The POS committee for a Ph.D. program consists of at least five members of the graduate faculty. It must include at least three members, including the major professor, from within the student's major or program. The committee must include member(s) from different fields of emphasis so as to ensure diversity of perspectives. A term member of the graduate faculty may participate in the direction of a student's dissertation research as a co-major professor if a member of the graduate faculty serves as a co-major professor and jointly accepts responsibility for direction of the dissertation.

The M.S. POS committee consists of at least three members of the graduate faculty. It must include two members, including the major professor, from the major or program. The committee must include member(s) from different fields of emphasis so as to ensure diversity of perspectives. A term member of the graduate faculty may participate in the direction of a student's master's research as a co-major professor if a member of the graduate faculty serves as a co-major professor and jointly accepts responsibility for the direction of a program of study.

Recommendations for changes in the POS committee for a master's or Ph.D. degree must have the approval of the student, major professor, DOGE, and all committee members involved in the change (committee members who are on Faculty Professional Development Assignments, retired, or resigned do not have to sign) before seeking approval of the Graduate College. A form to seek approval is available in program offices or on the web at www.grad-college.iastate.edu/forms/forms.html. These changes must be approved by the Dean of the Graduate College before the preliminary or final oral examination is held.

For more information about POS Committees, please see the Graduate College Handbook at http://www.grad-college.iastate.edu/publications/gchandbook/chapter06.html

Developing the Program of Study

The student and the major professor develop a plan of course work that is unique to each student. This plan is called a program of study with the consultation and approval of the POS committee. This agreement between the student and the Graduate College should be submitted as early as possible for approval. Each student's POS should be designed to correct deficiencies in academic preparation, allow study of subject matter that most interests the student, and avoid repetition in areas where the student is well prepared. The POS committee assures that program requirements are met before signing the POS form.

POS forms are available in each program office or on the web at www.grad-college.iastate.edu/forms/forms.html.

The POS form is signed by the student, committee members, and the DOGE of the major, minor or interdepartmental major/minor, if appropriate, before submitting it to the Graduate College. There the program of study is reviewed for adherence to the standards of the Graduate College

and is submitted to the Dean of the Graduate College for approval. When the Graduate College has approved the POS, copies are sent to the program to distribute to the student, the major professor, and the program.

Recommendations for modifications to the program of study for a master's or Ph.D. degree must have the approval of the student, major professor, all committee members, and the program's DOGE before approval by the Graduate College is sought. (The form, "Modifications to the Program of Study," is available in program offices or at www.grad-college.iastate.edu/forms/forms.html.) A change of degree requires a new committee and Program of Study.

For more information about developing a Program of Study, please see the Graduate College Handbook at http://www.grad-college.iastate.edu/publications/gchandbook/chapter06.html

Preliminary Examination

A preliminary oral examination is required of PhD students for admission to candidacy. Doctoral students are strongly encouraged to complete this exam by the end of the second year of study. In general, preliminary exams in EEOB will include a written and oral component, although each POS committee has the responsibility of structuring the exam. The exam may vary among majors, so seek further guidance from your POS committee. The "Request for Preliminary Examination" form must be completed and submitted to the Graduate College no later than two weeks before the scheduled exam date. Copies of this form may be obtained from the EEOB Program Assistant.

Application for Graduation (Diploma Slip)

Application for graduation should be made by the end of the first week of the semester (fall or spring) in which the student expects to receive the degree, or by the last day of the spring semester when wishing to graduate during summer session. To apply for graduation, the student is required to submit to the Graduate College a signed "Application for Graduation" form, available in the program office or on the web at http://www.grad-college.iastate.edu/forms/forms.html. Before submitting this form, a student must have submitted and had approved by the Graduate College a "Recommendation for Committee Appointment" form and a "Program of Study" form. Also the student must have been fully admitted to a program and met the Graduate English requirement (for nonnative English speakers). Graduation may be delayed if the "Application for Graduation" form filing deadline is not met. If it becomes apparent that a student cannot graduate during the indicated term, he/she should call the Graduate College (515-294-4531) and cancel the "Application for Graduation" form. The student must then file a new form for the next planned term of graduation. Upon submitting the application for graduation, all thesis students will be charged a one-time, nonrefundable $100 thesis fee by the Graduate College. This fee will be billed to each thesis student's university bill to cover thesis review and processing, thesis technical assistance, and printing and binding fees for the ISU library copy.

Final Oral Examinations

The Graduate College requires that all master's and Ph.D. degree candidates must pass final oral examinations. The final oral examination must be held by the final oral examination deadline date for the semester in which the degree is granted. Deadlines can be found on the Graduate College website. All coursework in the program of study must either be completed or in progress before the final oral examination can be scheduled. This examination is oral; it may

also include a written component if specified by the student's program of study (POS) committee.

Graduate students must register at Iowa State University for the equivalent of two credits, or for the R-credit course GR ST 600 (Examination Only) if no course work is needed, during the semester in which the final oral examination is taken. Taking only an R-credit course where the fee is not equivalent to the 2-credit minimum charge is not acceptable for the term of the final oral examination. If the examination is taken during the interim between terms (including the first day of classes), registration can be for either the term before or the term after the examination is held. International students, even those in their final term, must be registered full-time or previously approved by the International Students and Scholars (ISS) to reduce their course load.

The following conditions must be met before the "Request for Final Oral Examination" form is submitted to the Graduate College:

- full admission status,
- approved "Recommendation for Committee Appointment" form,
- approved POS form with all coursework completed or in progress,
- English requirement met (for nonnative English speakers),
- not on probation,
- time limit not exceeded,
- approved "Report of Preliminary Examination" form (for Ph.D. candidates only),
- "Application for Graduation" form (diploma slip) submitted,
- registered for term in which final oral examination is taken for the equivalent of two credits or for the R-credit fee GR ST 600 (Examination Only) if no course work is needed,
- overall G.P.A. above 3.00, or petition filed and approved stating extenuating circumstances,
- 24 credits earned in residency during 2 consecutive semesters and 1 summer session or at least ½-time employment at ISU; and
- a minimum of six months between the preliminary oral and final oral examinations (for Ph.D. candidates only).

The M.S. final oral examination is conducted after the thesis is finished. The Ph.D. final oral examination, conducted after the dissertation is finished, is oral and often limited to a defense of the dissertation. To receive the degree at the end of a given semester, the student must hold the final oral examination before the final oral examination deadline for the semester. For deadlines, please see the Graduate College website (http://www.grad-college.iastate.edu/deadline/deadlines.html).

The candidate is responsible for initiating the "Request for Final Oral Examination" form, which must be submitted to the Graduate College at least **three** weeks before the examination. When a final oral examination includes a defense of the thesis or dissertation, the candidate must submit copies of the manuscript to members of the POS committee at least two weeks before the examination. A committee member who does not receive the thesis at least two weeks before the final oral examination may cancel the examination.

The entire POS committee must be convened for the final oral examination. Any request to change the makeup of the committee needs to be submitted in writing to the Graduate College and approved by the Dean of the Graduate College before the final oral examination is held.

The request must be signed by the student, all committee members involved in the change, and the DOGE. With the approval of the major professor and concurrence of the candidate, interested faculty members and graduate students may attend final oral examinations and, at the invitation of the major professor, may ask questions.

In some cases, it may only be possible to convene the committee in a timely manner if one of the committee members participates at a distance. This is permitted if the distance participation is agreeable to all committee members, if the mode of communication permits the full participation of the committee member at a distance, and if the Graduate College is notified in advance of the examination in writing by the major professor and advised who will sign for the distant committee member at the conclusion of the examination. The preferred method of distance participation is video conferencing, but speaker phone is acceptable in cases where visual presentation is not critical. The distant committee member must participate for the entire examination.

In the case of any emergency occasioned by sudden illness, accident or other serious and unforeseen ability of a faculty member to attend a meeting of the POS Committee, the Dean of the Graduate College will approve via telephone an emergency replacement. This emergency procedure can be activated by calling the Dean's office directly at 515-294-4531.

The "Report of the Final Oral Examination" form must be submitted to the Graduate College immediately after the examination. On this form the POS committee indicates whether the student

- has passed the examination and may be granted the degree sought,
- must meet some conditions before the degree may be granted. These conditions are specified on the report form and will remain in effect until the major professor and/or committee if specified, notifies the Graduate College, in writing, that they have been satisfied and the degree may be granted,
- has not passed but the exam may be retaken. Two months must elapse before the exam may be retaken (a written explanation should be provided with the report form), or
- has not passed and the exam may not be retaken at a future date. The degree is denied (a written explanation should be provided with the report form).

In a final oral examination, if one member of the committee votes not to pass the candidate, each member of the committee must forward to the Dean of the Graduate College in writing a justification for his/her vote. If more than one member of the committee votes not to pass the student, the candidate does not pass the examination.

Terminating a Student after the Master's Degree. This is sometimes referred to as a "terminal master's" degree. Most master's degrees are scholarly achievements in their own right. There are occasions when the program or the POS committee judges that a student should not go beyond the master's level. In such cases, on the "Report of Final Oral Examination" form for the master's degree, the major professor should note in the "Comments" section that this is to be a terminal degree. If requested on this form, a hold will be placed on future registration of that student. This notation does not appear on the student's transcript.

Thesis or Dissertation

A master's thesis is a scholarly composition that demonstrates the ability of the author to do independent and creative work. It explores in some depth a problem or issue related to the major field of study. Although considerable variations in format and style are acceptable, precise

expression, logical construction, and meticulous attention to detail are essential. A thesis is required in all fields in which a master's degree is awarded, except where specific provision is made for a nonthesis degree program. A minimum of three research credits is required on every program of study for a thesis master's degree.

A doctoral dissertation must demonstrate conclusively the ability of the author to conceive, design, conduct, and interpret independent, original, and creative research. It must attempt to describe significant original contributions to the advancement of knowledge and must demonstrate the ability to organize, analyze, and interpret data. In most instances, a dissertation includes a statement of purpose, a review of pertinent literature, a presentation of methodology and results obtained, and a critical interpretation of conclusions in relation to the findings of others. When appropriate, it involves a defense of objectives, design, and analytical procedures. Dissertation research should be worthy of publication and should appear in appropriate professional journals or in book form.

Since satisfactory completion of the thesis or dissertation can constitute one of the most gratifying experiences in graduate study, the document should reflect the highest standards of scholarship, serving as a measure of quality for the student, major professor, the program, and Iowa State University.

Responsibility for writing and editing of the thesis or dissertation rests with the student, under the supervision of the major professor, and not with the Graduate College. The Graduate College does not permit joint authorship of theses or dissertations. It is the responsibility of the major professor to supervise the preparation of preliminary and final drafts of the thesis or dissertation, so as to assure the highest level of quality when the student presents the thesis or dissertation to the committee for final approval.

Starting Fall 2006, all theses and dissertations will be submitted electronically after the final oral examination is held. Please browse the Graduate College's Web site (http://www.grad-college.iastate.edu/degree/thesisrequirements.html) for new requirements, revised fees, and other pertinent information.

Thesis/Dissertation Submission Request

Since theses and dissertations are now submitted electronically, a signed signature page is no longer required. However, the Graduate College still needs the approval of the committee and program before it can review the final copy of the document and deliver it to the university's microfilming company (ProQuest/University Microfilms). A "Thesis/Dissertation Submission Request" form available from the Graduate College's Website at http://www.grad-college.iastate.edu/forms/forms.html must be completed and mailed, emailed with an attachment, faxed, or hand carried to the Graduate College office in 1137 Pearson Hall by the published deadline each term. After the form is received, the student is given approval to sign on to ProQuest's Website and submit their thesis electronically for review and final deposition.

Graduate Student Approval Slip for Graduation

Every candidate for an advanced degree is required to complete a "Graduate Student Approval Slip for Graduation" form. It is sent to the major professor or program to give to the student after the "Request for Final Oral Examination" form is received and approved by the Graduate College. Signatures are required of the major program, the Graduate College thesis specialist (for those completing a thesis or dissertation), and the Graduate College. Final clearance of

academic requirements will be made when current term grades have been submitted and evaluated by the Graduate College.

All incompletes from previous terms must be completed by the deadline for completion of the Graduate Student Approval Slip. An incomplete, non-report, or failing grade that a student receives for the term of graduation will result in removal from that term's graduation list. The student will need to complete a new Application for Graduation and Graduate Student Approval Slip for the new term of graduation.

If a conditional pass was recommended at the final oral examination, the major professor and the committee members, if so specified, must notify the Graduate College in writing no later than the due date for the Graduate Student Approval Slip for the term of graduation that the conditions have been met.

Shortly after the submission of the "Application for Graduation" form, a one-time, nonrefundable thesis fee is billed by the university accounting system. In addition, a graduation fee will be assessed by the Registrar's Office. This fee is nonrefundable if a student does not cancel his/her graduation by the Graduate College's cancellation deadline.

Registration Hold for Graduates

When a student receives a graduate degree, a hold on future registration will automatically be placed on that student's record unless he/she previously has been approved to pursue a concurrent master's degree. In order for this hold to be released so that the student may continue to register for courses, one of the following forms must be completed and sent to the Graduate College: A "Request To Transfer From One Major/Program/Department To Another" if the student is continuing in a different Master's or Ph.D. Program; a "PhD Track" form if a student wishes to continue taking classes but is not currently pursuing another degree, or a "Request to Transfer From One Major/Program/Department to Undeclared Nondegree" form if a student wishes to continue taking classes but is not currently pursuing another degree(only a total of 9 semester hours taken as an undeclared nondegree student may be later transferred to a graduate degree program at ISU).

Financial Matters

Graduate Appointments and Assistantships

A graduate assistant (GA) performs duties that contribute significantly to their graduate education and the research or teaching endeavor of the department. Students holding assistantships are considered to be in training, and the graduate assistantship is a form of student aid that combines training in research and teaching with income. The standard appointment is 1/2-time and the official university guideline suggests 20 hours per week should be spent on assistantship duties, but this expectation varies depending on the nature of the assistantship. Three types of graduate assistantships are available. These are research (RA), teaching (TA), and administrative (AA). Students hired to teach or to perform research that is part of their educational program should be hired as graduate assistants, **not** as hourly employees, unless those duties do not involve ISU facilities or faculty supervision. Students on an assistantship are required to register as full time students (9 credit hours during fall and spring semesters, 5 credit hours during summer semester).

Generally, only students with Full or Provisional admission status are eligible to hold graduate assistantships. An assistantship awarded to a graduate student on restricted admission status or on probation must be approved by the Dean of the Graduate College term-by-term (each semester or each summer session). The graduate assistant on restricted admissions status or on probation will be assessed full resident tuition but will not receive a Graduate College tuition scholarship. The Graduate College requires that graduate assistants register for credit each term that they hold an appointment.

The EEOB department offers a number of teaching and research assistantships. Research assistantships may be supported by grants to the research program of an individual major professor. Departmental assistantships are usually recommended by the Graduate Study Committee and offered by the department chair at the same time admission is granted. Teaching and research assistantships are normally half-time appointments. Generalized assignments are provided in a Letter of Intent to the student submitted with notice of admission. Specific RA assignments are made by the major professor.

Tuition Scholarships

Graduate students appointed to graduate assistantships 1/4-time or more (except those also holding traineeships, fellowships, or contracts that provide funds for payment of tuition and/or fees), are assessed tuition at the full resident (in-state) rate. In addition, the Graduate College may pay a tuition scholarship covering a portion of the resident tuition for each eligible graduate assistant (as determined by the student's department), except those students on restricted admission or on academic probation. The Graduate College tuition scholarships are not paid directly to the student, but are applied to the student's tuition bill. The scholarship awards are equal to:

For a master's student (Academic year 2006-07):

- 50% of **full** resident tuition per semester for each student on an assistantship appointment of 1/2-time or more or
- 25% of **full** resident tuition per semester for each student on an assistantship appointment of 1/4-time or more, but less than 1/2-time.

For a Ph.D. (and certain professional master's program) student:

- 100% of **full** resident tuition per semester for each student on an assistantship appointment of 1/2-time or more or
- 50% of **full** resident tuition per semester for each student on an assistantship appointment of 1/4-time or more, but less than 1/2-time.

For fall and spring semesters, a student must be on appointment for **at least three months during the semester** to qualify for a Graduate College tuition scholarship. For summer session, a student must be on appointment for at least six weeks during the term to qualify for a Graduate College tuition scholarship.

Teaching Assistantships

Teaching assistantships are available through EEOB for a variety of courses, including Introduction to Biology, Principles of Biology, Human Anatomy and Physiology, Ecology, and Plant Taxonomy. Teaching assistantships are assigned by the EEOB Department Chair. If there is an interest in gaining teaching experience through a TA position, graduate students should discuss the matter with their major professor.

Specific teaching assignments are made by the department chair on a semester-by-semester basis taking into consideration a number of factors:

- Covering all classes with excellent TAs
- Providing experienced TAs to lead first sections
- Providing experienced TAs for prep assignments
- Assignments in general area of student program
- Assignments in only one course
- Avoidance of schedule conflicts
- Consideration of preferences of faculty and students

The assignments are based upon half-time appointments. They usually amount to 6-9 lab contact hours per week plus regular TA meetings, lectures for the course, last-minute preparations for labs and office hours for students. In addition, TAs may be responsible for the maintenance of equipment in the teaching labs in which he/she serves as TA. A particular concern in recent years has been the care and cleaning of microscopes. Your students should be instructed along these lines and asked to be sure microscopes are clean and in good order before they put them away after each lab. At the end of the term, TAs should inspect each of the microscopes and other equipment personally. If any problems occur with equipment at any time, these should be reported to with the faculty supervisor for the TA's course.

All graduate students are encouraged to participate in a university-wide Teaching Assistants' Orientation Seminar (TAOS). The purpose of this program is to provide TAs with some professional help in developing and improving their teaching skills. See the Graduate Student Handbook for details.

Beyond the budgeted TAs and RAs offered by the department and its faculty, students who are eligible for work/study may apply for and may be offered a university assistantship. This may be assigned by the chair as an RA or a TA. Information on these appointments may be obtained from the Financial Aids office. The National Science Foundation offers graduate fellowships. These are normally awarded to students who have not begun their graduate work, but some are awarded to first year graduate students. The Office of Sponsored Programs office on campus maintains information on this program and on various other fellowship possibilities.

The Center for Excellence in Teaching and Learning provides training and resources for graduate students in a TA position. New in 2007, graduate students can gain a graduate student teaching certificate. For more information about the teaching certificate or CELT, please visit their website at http://www.celt.iastate.edu/homepage.shtml.

International students who are not native speakers of American English and who are appointed or considered for a teaching assistantship, or will have some teaching responsibilities, or who are applying for the Preparing Future Faculty or Graduate Student Teaching Certificate must take the SPEAK/TEACH test. For more information, visit the following website: http://www.grad-college.iastate.edu/speakteach/testing.html.

Tenure of Appointment

Assistantship appointments are made on a fiscal year basis and must be renewed on July 1st each year. The process is handled by the EEOB office in consultation with your major advisor Appointments may be terminated for two reasons only: 1) for cause, or 2) loss of funding. Termination for cause is discussed in Chapter 9. The satisfactory completion of one

appointment, plus satisfactory academic performance, will ordinarily make a student eligible for reappointment. However, departments have the discretion not to reappoint. Failure to reappoint is not termination and is not subject to formal appeal. Departments do have an obligation to provide reasonable notice if reappointment is not to be made. Also, programs may make commitments to support students for periods longer than one year. Such commitments are not formally treated as appointments. Students should obtain the terms of such commitments in writing.

Limits on Departmental Support and Tuition Scholarships

M.S. student will be eligible for 9 semesters of tuition scholarship support. The support does not have to be applied in consecutive terms, but the total semesters of intermittent support shall not exceed the state limits. These students will be limited to 7 semesters of stipend support from EEOB departmental funds. The support does not have to be applied in consecutive terms, but the total semesters of intermittent support shall not exceed the state limits.

Ph.D. students will be eligible for 21 semesters of tuition scholarship support. The support does not have to be applied in consecutive terms, but the total semesters of intermittent support shall not exceed the state limits. These students will be limited to 15 semesters of stipend support from EEOB departmental funds. The support does not have to be applied in consecutive terms, but the total semesters of intermittent support shall not exceed the state limits.

For good cause, faculty and graduate students may request continuation of support once these limits have been reached.

Currently enrolled graduate students who were supported as departmental TA or RA in the semester prior to the request shall receive priority 1 in the provision of departmental funds. Proposed new recruits to the EEOB majors who have not been previously enrolled as a graduate student in EEOB will receive priority 2 in the provision of departmental funds.

Letters of Intent

EEOB offers graduate assistantships using the "Iowa State University Graduate Assistantship Letter of Intent" form, which contains a description of the position offered, stipend, and length of appointment. This form is available from the Graduate College (Pearson Hall), in department or program offices, or on the Graduate College's Web site at *http://www.grad-college.iastate.edu/forms/files/GraduateAssistantship.doc*. Such matters as the specific nature of the graduate assistant's responsibilities, requirements concerning office hours and staff meetings, particular conditions for re-appointment, benefits, and pertinent department requirements are established at the beginning of the appointment. All assistantship appointments are subject to the continuing availability of funds.

Conditions of Appointment

The university provides services and equipment essential to performance of an assistant's duties, within the limitations established by departmental and university resources. During an appointment period, the academic program or administrative department may evaluate the quality of the assistant's performance in teaching, research, or administrative duties. The program should make evaluation of the graduate assistant an educational experience. Consequently, the graduate assistant's evaluation is usually discussed with him or her; if the program does not initiate a discussion, the assistant may request one. A graduate

assistant who feels unfairly evaluated has recourse through the procedures for grievances related to scholarly and professional competence. See also appointment termination procedures.

ISU is an equal-opportunity employer and recruits, hires, and promotes employees without discrimination on the basis of race, color, religion, national origin, sex, disability, or age. Violations should be brought to the attention of the Equal Opportunity and Diversity Office (515-294-7612). The university's policies on nondiscrimination and affirmative action and discrimination and harassment can be found on ISU's Policy Library Web site at *http://policy.iastate.edu/policy/personnel/*.

Stipends

The usual graduate assistantship is a 1/2-time appointment with a stipend sufficient to cover modest living expenses. The university establishes a minimum and maximum monthly stipend for 1/2-time teaching, research, and administrative assistantships. Stipends for other fractional appointments are scaled proportionally. The guidelines and procedures for setting stipends used by the graduate assistant's department are filed in the department office, where they are available to a graduate assistant upon request.

Hourly Work

U.S. citizens and permanent residents who are on graduate assistantships may also work on an hourly basis provided that the additional work is approved by the unit awarding the assistantship. Total hours (assistantship and hourly work) cannot exceed 30 hours per week during the academic year when school is in session and 40 hours (assistantship and hourly work) per week during the summer. Non-immigrant international students must abide by the terms of their visa status and immigration guidelines according to total hours worked. (For visa questions, contact the International Students and Scholars Office, 515-294-1120, or their Web site at *http://www.iastate.edu/~internat_info/*.)

Tax Liability for Graduate Assistantships

All assistantship monthly stipends are subject to income tax withholding requirements as payment for work. The Graduate and Professional Student Senate (14 Memorial Union, 515-294-8725 or http://www.grad-college.iastate.edu/gpss/) can provide further information to graduate students with questions about tax liability and educational credits.

Internal Funding Sources

Grants for Professional Travel

Attendance and presentation of research results at professional meetings are an essential part of the EEOB graduate training program. Financial assistance is available through *Professional Advancement Grants* from the Graduate College and the Graduate and Professional Student Senate and from major professors and home departments. Students interested in attending a conference should:

- Discuss conference opportunities with their major professor and ask about the availability of funding provided through the major professor and the home department
- Plan conference attendance well in advance to ensure the best pricing for registration and airfares, and to secure funding

- Complete the *Professional Advancement Grant* (PAG) application for funding from the Graduate College and the Graduate and Professional Student Senate. The form and instructions can be downloaded from http://www.grad-college.iastate.edu/gpss/PAG/index.html.
- Submit the original of the PAG form to the home department administrative office and to their administrative office of their major.

Plant Science Fellowship

http://www.plantsciences.iastate.edu/graduate/
The Plant Sciences Institute has competitively awarded graduate fellowships for outstanding candidates who intend to pursue a Ph.D. degree in the plant sciences.
The Plant Sciences Fellowships have the following features:

- Stipend: $25,000 for twelve months
- Tuition paid for four years
- Guaranteed stipend support for four years
- Nine months to spend time in up to three research laboratories before deciding on major professor

Graduate Minority Assistantship Progam (GMAP)

http://www.grad-college.iastate.edu/finance/gmap.html
GMAP offers financial assistance to US citizens who are members of ethnic groups traditionally underrepresented in higher education. GMAP is among the university's most widely-applied financial programs for graduate students.

George Washington Carver Doctoral Fellowship

http://www.grad-college.iastate.edu/finance/gwcarver.html
The George Washington Carver Doctoral Fellowship Program is named to honor George Washington Carver, Iowa State's first minority student and faculty member. The fellowship is designed to assist in the national effort to increase the number of Ph.D. degrees earned by underrepresented students across all areas of graduate study. It offers to graduate students the opportunity to devote full time to preparation as researchers with specific guidance from the designated major professor. It is among the university's most prestigious awards offered to graduate students.

ISU Office of Biotechnology Fellowships

Applicants interested in conducting research in biotechnology-related fields and who possess strong academic credentials may be nominated for and receive Biotechnology Fellowships. Like the PSI awards noted above, these fellowships involve attractive multi-year funding packages. Eligible EEB applicants will be nominated by the EEB program.

The Bill Clark Award

Sponsored by an EEB faculty member, this award is made annually to a student to help support research costs. Details about the competition are announced in the spring by the EEB Supervisory Committee.

Funding Resources - ISU Office of the Vice Provost for Research

The VP for Research maintains a Web site with continuously updated announcements of external and internal funding programs: http://www.vpresearch.iastate.edu/Funding/index.html Students are encouraged to visit the site regularly to scan for new opportunities.

External Funding Sources

National Science Foundation

Doctoral Dissertation Improvement Grants in the Directorate for Biological Sciences-
The National Science Foundation awards Doctoral Dissertation Improvement Grants in selected areas of the biological sciences. These grants provide partial support of doctoral dissertation research to improve the overall quality of research. Allowed are costs for doctoral candidates to conduct research in specialized facilities or field settings away from the home campus, to participate in scientific meetings, and to provide opportunities for greater diversity in collecting and creativity in analyzing data than would otherwise be possible using only locally available resources. For more information visit http://www.nsf.gov/pubs/2005/nsf05607/nsf05607.htm.

Graduate Research Fellowship Program (GRFP)
The Graduate Research Fellowship provides three years of support for graduate study leading to research-based master's or doctoral degrees and is intended for students who are in the early stages of their graduate study. The Graduate Research Fellowship Program (GRFP) invests in graduate education for a cadre of diverse individuals who demonstrate their potential to successfully complete graduate degree programs in disciplines relevant to the mission of the National Science Foundation. For more information visit http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201.

Environmental Protection Agency

STAR Fellowship
The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is offering Graduate Fellowships for masters and doctoral level students in environmental fields of study. The deadline for receipt of pre-applications is October 23, 2007 at 4:00 PM EST. Subject to availability of funding, the Agency plans to award approximately 65 new fellowships by July 31, 2008. Master's level students may receive support for a maximum of two years. Doctoral students may be supported for a maximum of three years, usable over a period of four years. The fellowship program provides up to $37,000 per year of support per fellowship.

Sigma Xi – Iowa State University Chapter

As part of the Sigma Xi Annual Meeting program, the Student Research Conference allows graduate students the opportunity to make 10-minute presentations to a panel of judges. The ISU Chapter is prepared to support, at least partially, a student to participate in this Conference.

In addition the Chapter has, in the past, helped financially support student participation in poster sessions other than those at the Sigma Xi Annual Meeting.

Benefits

Benefits in addition to stipend support accrue to the graduate assistant during the appointment period. A full explanation of these benefits appears in the Office Procedure Guide; the following shortened description omits references to forms and approvals. Graduate Assistants are responsible for making sure they receive a benefits package, which contains information and enrollment forms for the health insurance, dental insurance, and prescription drug benefits described below. Benefits information will be mailed to the campus addresses of all C-base Graduate Assistants on appointment by August payroll. Otherwise, packets are available from the following sources:

Records Office - where payroll sign up is completed, Room 3810 Beardshear
Insurance Representative at 0570 Beardshear Hall
Graduate College, 1137 Pearson Hall

Health Insurance

Graduate assistants receive single student coverage free of charge under the ISU Student and Scholar Health Insurance Plan. Coverage for hospital, accident expenses, surgical care, and maternity care are included. Graduate assistants may enroll their spouse and children for an additional premium. An enrollment form must be completed before the Semester Enrollment Deadline or within the first 30 days of the date of appointment, whichever is later.
The health insurance plan is administered by The Chickering Group and underwritten by Aetna Life Insurance Company. A copy of plan information is available on-line at *http://www.hrs.iastate.edu/sship/homepage.html*. For further information, contact The Chickering Group at 1-800-466-2381 or the ISU Student Health Insurance Representative in 0570 Beardshear, 515-294-4820. Graduate assistants do not participate in the ISU staff medical plans.

Dental Insurance

A dental insurance policy is available for students and family through Delta Dental Plan of Iowa. Plan information is available on the Web site at *http://www.hrs.iastate.edu/sship/homepage.html*. The enrollment deadlines are the same as for the health insurance plan.

Prescription Drug Benefit Program

Graduate Students receive single coverage free of charge in a program that reduces the cost of prescription medication available at the Thielen Student Health Center Pharmacy. Spouse and children can receive the prescription benefit if they are enrolled in the ISU Student and Scholar Health Insurance Plan and the payroll deduction option is chosen for payment of premium. For further information, browse the Web site at *http://www.hrs.iastate.edu/sship/homepage.html* or contact the Thielen Student Health Center Pharmacy at 515-294-7983.

Leave

Graduate assistants on standard half-time assistantships earn vacation at the rate of 1 day for each full month of their appointment. Those on assistantships other than half-time assistantships earn vacation proportionally. University holidays are not counted as vacation days. The graduate assistant's department or academic program may offer more vacation than this minimum.

Arrangements for vacation are made between the graduate assistant and that assistant's supervisor. The supervisor should be accommodating regarding vacation requests. At the same time, the graduate assistant should attempt to plan vacation so that it does not interfere with or cause neglect of the duties associated with his or her appointment. For teaching assistants, vacation will normally occur during periods when classes are not in session, such as Spring or Thanksgiving Breaks. If a teaching assistant needs to be absent either for personal reasons or illness, the supervisor should be understanding and accommodating to that need.

Vacation officially expires at the end of the period of appointment; however, the supervisor of a continuing graduate assistant may approve carry-over of accrued vacation days. Compensation for unused vacation days is not permitted.

Worker's Compensation

Any injury sustained by a graduate student in the course of university-related employment should be reported immediately to your supervisor with details of the circumstances. Your supervisor will contact Human Resource Services, Benefits Section using the "First Report of Injury" form. Payment through the Iowa Worker's Compensation System is available only if a student is injured on the job while employed by the university. Injuries sustained in the pursuit of educational objectives are not considered work related and are not covered by the worker's compensation system. The Office Procedure Guide, will provide guidance in the processing of claims.