

GRADUATE STUDENT HANDBOOK 2006

(online at <http://www9.georgetown.edu/faculty/barrowse/cgss/>)

Department of Biology
Georgetown University

WELCOME TO THE DEPARTMENT OF BIOLOGY!

Welcome to the Graduate Program in the Department of Biology. The science of biology is exciting, challenging, and rapidly changing. To be competitive today, biology research scientists need both a solid understanding of basic biological principles and specialized training in a specific area of study. Our Biology Faculty believes that all students who earn graduate degrees must have a broad-based background in biology. Accordingly, all of our graduate students are required to obtain an understanding of basic biological concepts and thinking by taking three courses: BIOL 501 (Graduate Foundations in Evolution, Ecology, & Behavior), BIOL 502 (Graduate Foundations in Biochemistry, Cell, & Molecular Biology), and BIOL 503 or equivalent (biostatistics). You also need to undertake state-of-the-art research in a specialized field of biology. Our Department, therefore, admits only a limited number of graduate students into its Program to insure a low student-to-faculty ratio. Members of your dissertation research committees are from both Department faculty and outside research laboratories (e.g., those at the Georgetown University Medical Center, National Institutes of Health, Smithsonian Institution, or the U.S. Department of Agriculture). Today, there are diverse career options available to biology graduates with a Masters of Science (M.S.), Doctorate of Philosophy (Ph.D.), or both. You will choose a set of formal courses with the aid of your Academic Advising Committee (AAC) and dissertation committee. Most of our students choose careers in academics, government, or private industry after graduation. Whatever your career path, your ability to communicate both your ideas and research results are important for your professional success. There is no better way to learn those basic skills than teaching. Thus, all graduate students in our Department receive faculty-assisted education in the development of teaching skills, participate in at least four semesters of teaching biology, and enroll in BIOL 504 (Teaching Biology: Pedagogy and Practice).

Both our Department and the Graduate School have a number of requirements that you must meet before you successfully complete your degree. The purpose of this Graduate Student Handbook is to familiarize you with graduate-student information pertaining to our Department. Requirements specified by the Graduate School are updated frequently online at <http://www9.georgetown.edu/faculty/barrowse/cgss/> (a GU password-protected Website). Unfortunately, no document such as this one can be 100% complete, entirely accurate, or always up-to-date. Therefore, if you are uncertain about a requirement, you should talk to your academic adviser, a member of the Committee of Graduate Students and Studies (CGSS), or the Chair of the Department of Biology.

We welcome you to our Department and hope that your endeavors here will be highly productive and rewarding. New students, please read this entire Handbook ASAP and retain it for your reference.

The Biology Faculty

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Glossary

Here are definitions of selected terms from this Handbook.

adviser, advisor *n.* Your research adviser. *syn.* mentor.

Chair, Biology Chair *n.* The Chairperson of the Department of Biology, currently Professor Douglas Eagles.

Committees

Academic Advising Committee (ACC) *n.* Your initial graduate committee that is replaced by your Dissertation Committee.

Committee of Graduate Students and Studies (CGSS) *n.* The Biology Committee that is directly concerned with the Biology Graduate Program. The CGSS has a chair and 2–3 other members. A student representative, the Biology Graduate Program Assistant, and the regular members attend meetings. Minutes and other information from the CGSS are accessible to Biology graduate students, staff, and professors at <http://www9.georgetown.edu/faculty/barrowse/cgss/>.

Ph.D. Qualifying Examination Committee (PQEC) *n.* The committee of 2–3 regular faculty professors that works with you and your Ph.D. Qualifying Exam (PQE), helps you set PQE goals and deadlines, and grades your PQE.

M.S. Dissertation Committee (MDC) *n.* The committee of professors, other scientists, or both that advises your M.S. research and dissertation.

Ph.D. Dissertation Committee (PDC) *n.* The committee of professors, other scientists, or both that advises your Ph.D. research and dissertation.

Dean *n.* The Dean of the Graduate School.

Department *n.* Department of Biology. Note: Our official name is Department of Biology, not Biology Department.

Department of Biology official address

Department of Biology
Reiss Building Suite 406
Georgetown University
Box 571229
Washington, D.C. 20057-1229

Director of Biology Graduate Studies *n.* The Chair of the CGSS, currently Professor Edd Barrows.

dissertation *n.* A written, formal paper that a student prepares as part of earning a college degree. *syn.* thesis.

Evolution, Ecology, and Behavior (EBB) *n.* The main subjects of BIOL 501 which are called “evolutionary biology” by some researchers.

Examinations

M.S. Comprehensive Exam (MCE) *n.* The exam that a M.S. graduate student usually takes during his (her) first year which is written document in the form of a grant proposal that relates to the student’s research focus and integrates concepts from both EBB and MCB subjects as explained in more detail below. Your MCE is the same exam as the Ph.D. Qualifying Exam given in a particular term. Your MCE Committee (MEC) grades your Exam at the M.S. level.

Ph.D. Qualifying Exam (PQE) *n.* The exam that a Ph.D. graduate student usually takes during his (her) first year which is written document in the form of a grant proposal that relates to the student’s research focus and integrates concepts from both EBB and MCB subjects as explained in more detail below. Your PQE Committee (PQEC) grades your PQE.

Ph.D. Comprehensive Examination *n.* An exam that a Ph.D. student takes after he (she) passes his (her) Ph.D. Qualifying Exam.

Graduate-student academic file *n.* A file of your academic records, evaluations, etc. maintained by the Department of Biology.

mentor See adviser.

Molecular and Cell Biology (MCB) *n.* Main subjects of BIOL 502.

thesis See dissertation.

Some Biology graduate courses

BIOL 501 (Graduate Foundations in Evolution, Ecology & Behavior, 4 credits)

BIOL 502 (Graduate Foundations in Biochemistry, Cell & Molecular Biology, 4 credits)

BIOL 503 or equivalent (biostatistics, 3 credits)

BIOL 504 (Teaching Biology: Pedagogy and Practice, 2 credits)

BIOL 905, 906 (Credit Non-thesis Research 905 fall semester; 906, spring semester for 1–9 credits per

term)

BIOL 955 (Credit Thesis Research, 1–9 credits per term)

BIOL 999 (Non-credit Thesis Research, 0 credits per term).

PLEASE NOTE: The GU Graduate School of Arts and Sciences Webpages (http://grad.georgetown.edu/pages/current_students.cfm) contain information related to many of the topics in this Handbook. In some cases the Webpages will have information that is more current than this Handbook, and the new Graduate School information should supersede that in this Handbook. Please see, in particular, the summary of requirements for graduate degrees (http://grad.georgetown.edu/pages/reg_4.cfm).

A. The Academic Calendar

Please see the academic calendar link at <http://registrar.georgetown.edu/calendars/>.

B. Financial Aid

The Department of Biology endeavors to provide full financial support for graduate students in its Ph.D. program. The basic stipend for 2005–2006 is \$ _____. The Department expects a graduate student to take an active role in funding his (her) education by applying for external grant support and by submitting Federal Financial Aid forms when possible. All US citizens are expected to apply for financial aid by completing the FAFSA annually. The best time to do it is when you fill out your tax returns because the information is identical. Applying is free and parental financial information is not included. Instructions and forms are available online at <http://www.georgetown.edu/students/student-aid/grmenu.htm>.

The Graduate School ordinarily provides 4 semesters of financial support for each biology graduate student. The Department may also support a biology graduate student with special fellowships and research grants. Georgetown University awards University Fellowships to qualified students on a competitive basis at the time of admission and has other special fellowship opportunities for students who are nominated for them by the CGSS.

You should discuss the opportunities for external fellowship support with your adviser. The National Science Foundation Predoctoral Award and NIH F-32 Predoctoral Awards are among those that support graduate students. Your obtaining these awards is highly prestigious and brings you compensation beyond the value of any monetary reward.

The IRS may consider your graduate student fellowship to be taxable income, whether or not Georgetown University withholds taxes from your checks. You are encouraged to consult a tax attorney or accountant for advice about paying your taxes, including estimated taxes. Further information on taxes is available at http://grad.georgetown.edu/pages/tax_information.cfm.

C. Registration

1. Overview of Registration. Please see <http://grad.georgetown.edu/pages/registration.cfm>. Obtain your net ID (your email user name) and password. Check with the Biology Office (Reiss 406) for information about this.

- a. Meet with your Academic Advising Committee (AAC).
- b. Register via the Web in “Student Access+” (<http://limited.georgetown.edu/studentaccess>).
- c. Give a copy of your course schedule to the Biology Graduate Administrative Assistant, currently Mrs. Lynn Miller (406 Reiss).
- d. Complete your I-9, W-4, and local tax forms. See the Graduate Administrative Assistant about those forms.

During registration, the Biology Office should have all the materials you need for registration, including your net ID and the Schedule of Courses. If the Biology Office does not have your net ID, please go to the Graduate School Office (302 ICC) to be cleared for registration.

2. Academic Advising

As described above, biologists need a solid understanding of basic biological principles as well as specialized training in a biological sub-discipline. Accordingly, Biology requires you to take a core series of three (3) courses that are designed to provide you with a broad-based, multi-disciplinary biological background. These courses are BIOL 501 (Graduate Foundations in Evolution, Ecology & Behavior), BIOL 502 (Graduate Foundations in Biochemistry, Cell & Molecular Biology), and BIOL 503 or equivalent (biostatistics). You may also take specialized courses in your sub-discipline that your advisers help you select.

Prior to the beginning of the fall semester, each new graduate student meets with his (her) Academic Advising Committee (AAC). You and ACC members will discuss your interests and career plans, review your transcript(s), and identify courses that you should take. At the end of this meeting, you should have your “academic plan” for your first year. By the end of that year, you should have selected a research mentor and other members of your Dissertation Committee who will advise you academically.

3. The Division of English as a Foreign Language Test (DEFL Test) for Non-native English Speakers

The Department of Biology requires incoming graduate students whose first language is not English to take the writing test administered by the GU Division of English as a Foreign Language (DEFL). The exam is given in late August. Your advising committee reviews your test results. The dates, times, and locations of the examination are posted on the Biology Graduate Student Bulletin Board (near 438 Reiss).

4. Full-time Students

Full-time students must take a minimum of 9 credit hours per semester. During your first year, if you do not register for 9 course credits, you should register for additional credits of Non-thesis Research (Biology 905 (fall) or 906 (spring)) in order to register for a total of 9 credits. In your second year, if you are taking 1–8 course credits, you should also register for Thesis Credit Research (Biology 955) in order to register for a total of 9 credits. Following completion of your course work, you should register for Biology 999, Non-credit Thesis Research. 999-01 is for dissertation research performed on campus and 999-02 is for research done off campus. 999-03 allows students, who have completed the required number of course credits, to register for additional courses and maintain full-time status without paying for additional credits of dissertation research. Please see the Graduate School Catalog for description of half-time and quarter-time status.

5. Course Selection

Graduate Courses at Georgetown

You may take graduate-level courses (courses numbered above 350) offered by the Department of Biology. Courses in other University departments numbered above 350 may also be taken with the consultation and approval of your advisers. Graduate fellowships do not pay for non-science courses.

Survival Skills and Ethics for Emerging Scientists (IDST 503)

GU offers this 2-credit, interdisciplinary course in the spring semester. Our Department encourages graduate students to take this course. It is very practical and includes topics such as (1) publishing research findings: writing a scientific paper, (2) oral communication: presentation of seminars and poster presentations, (3) grant writing skills: writing and reviewing grants and fellowships, and (4) teaching. In

addition, various topics in career development are considered.

Undergraduate Courses

In some cases, you may take an undergraduate course for graduate credit; however, you and your advisers should carefully consider that option. You may take up to eight (8) undergraduate course credits for graduate credit, but you must obtain approval from the course instructor(s) and the Dean of the Graduate School prior to taking such a course. To take an undergraduate course for graduate credit, you must fill out the request-for-approval form, which you obtain from the Biology Office. You should find out from a course's instructor what and how much extra work will be required of you in order to receive graduate credit for the course. For example, many instructors require a term paper in order to give graduate credit for an undergraduate course. You may not obtain approval for taking an undergraduate course retroactively.

Graduate students cannot register for undergraduate courses during the regular registration period. Instead, you must acquire an add-drop form, fill it out, obtain the instructor's signature, and take it to the Graduate School Office during add-drop week. You may not register for undergraduate Biology Tutorial.

Courses outside Georgetown University

You may take a course(s) taught at Consortium Universities, federal agencies (for example, the FDA, NIH, and USDA), and biological field stations. Please consult with your adviser before doing so. Also, read the specific information below regarding M.S.-Ph.D.-program requirements and restrictions for the number of number of allowable credits.

Research Credit Options

You may register for (1) Credit Non-thesis Research (BIOL 905, fall semester or BIOL 906, spring semester for 1–9 credits, (2) Credit Thesis Research BIOL 955 (1-9 credits); or (3) Non-credit Thesis Research BIOL 999 (0 credits). If necessary, you should register for Biology 905 and 906 to maintain full-time status in your first year. Register for 955 or 999 in your second and later years. Register for BIOL 955 if you have not completed the required number of credits for the degree and register for BIOL 999 after completion of your course work. See academic advising for descriptions of the different sections of BIOL 999.

Audit or Pass-Fail Options

Some courses (e.g., BIOL 504) are offered on a pass-fail basis only. You may register for these courses directly. If you wish to take a regular credit course by audit or on a pass-fail basis, you must, (1) obtain your adviser's permission, (2) inform the CGSS you are taking the course for audit or pass-fail, because this could influence your tuition, and (3) complete the registration process. You may not register for audit or pass-fail courses during registration. During registration, sign up for a course for credit. Then, obtain an add-drop form, fill it out, and hand it in to the Graduate School Registrar. Graduate School fellowships will not pay for audited courses.

6. Additional Graduate School Registration Requirements

The Graduate School has a number of registration requirements that must be met before your registration is complete. These include, but are not limited to, proof of immunization against select childhood diseases, IRS forms for foreign students (F-1 and J-1), and submission of an "I-am-here-payment" card. All graduate students are required to have medical insurance throughout each academic year. Thus, PLEASE read the Graduate School's online catalog at http://grad.georgetown.edu/pages/current_students.cfm before starting the registration process. Graduate students are responsible for keeping abreast of Graduate School

regulations and deadlines.

Pre-registration

At the end of an academic semester, continuing students pre-register for the next semester. The Department encourages each student to plan his (her) courses for an entire school year at the beginning of each fall semester. Discuss pertinent academic matters with your adviser, committee members, and CGSS members before registration. The steps for pre-registration are essentially the same as outlined above.

D. Information for First-year Students

Each semester, the Biology Seminar Committee invites scientists, who are addressing contemporary biological questions, to give research seminars. The informative seminars cover a variety of topics. All faculty members and graduate students are expected to attend those seminars, held on Friday, 3:15 through about 4:30 p.m. The Department encourages graduate students to suggest names of speakers to be invited and host a speaker once per semester.

1. Departmental Seminars

In addition to departmental seminars, a wide variety of seminars on the Main and Medical Campuses is of interest to members of the Department. Check the Dean's calendar link at <http://gumc.georgetown.edu/> for Medical Center seminars.

2. Work-in-progress Seminars (WIPs, a.k.a. Brown-bag Seminars)

After his (her) first year, each graduate student presents a research seminar annually to our Department. All graduate students are expected to attend the work-in-progress seminars. They are held on Thursdays, from 12:15 through 1:05 p.m.

3. Research-group Meetings and Journal Clubs

The Department believes that all new graduate students should be exposed to the "joys and frustrations" of empirical research early in their careers. Thus, each new graduate student is required to attend a group laboratory meeting (regular meeting of faculty and students working in a specific research laboratory) in addition to one of the journal clubs. You may ask your AAC, other graduate students, or the CGSS for additional information because these activities may not be formally announced. Also, check the Biology Graduate Student Bulletin Board (near 438 Reiss) frequently for updated information.

4. Laboratory Rotations

Graduate students are welcome to perform research rotations in Biology laboratories to learn about and undertake research and decide which laboratory to join for dissertation research. You should contact appropriate lab leaders (professors) to set up your lab rotations. Further, you and a lab leader should discuss ahead of time the detailed expectations for your work in the lab rotation. You may wish to put them in writing. A student should plan to complete rotation projects and select a dissertation lab by the end of his (or her) first summer in the program. Students should be aware that laboratories in which multiple students are planning to rotate in a single year will not commit to accepting any students until all students have completed rotations.

5. Desks, Telephone Access, Computer and Other Support Services

Upon arrival, each graduate student will be assigned a desk within one of the research laboratories. By having space within a laboratory, a new graduate student has an opportunity to interact daily with other graduate students, research technicians, and staff. Graduate students will have access to a telephone, a

secure place to leave valuables, a computer and printer, etc., and have a quiet place to hold office hours with other students. Once a graduate student selects a research mentor, he (she) will transfer to that mentor's laboratory.

Mail Box

Each graduate student has a mailbox in the Biology Office. Please check it often for outside, Georgetown University, and departmental mail.

Graduate Student e-mail and Bulletin Board

Information that is important for graduate students is either sent via group e-mail or posted on the Graduate Student Bulletin Board (near 438 Reiss). Please inform the Graduate Administrative Assistant if you discover your name is not on the e-mail list.

Access to Reiss Science Center on Weekends and after Hours

In order to obtain access to the Reiss Science Center after hours, please ask the Biology Office Manager, currently Mrs. Dee Hill, to submit your name to the Security Office so that you can use your GoCard in the card readers at Reiss entrances at the first and second floors.

The "Lunch" Room (436 Reiss)

436 Reiss is a place where faculty, staff, and graduate students can relax, chat, and eat. It contains a table, refrigerator and a microwave oven. You may store your food in the refrigerator, but it is a good idea to put your name on your food to make sure no one else eats it. Do not put food in refrigerators, or freezers, in research or teaching laboratories! The Department may occasionally close 436 for special meetings. The Department also has a conference room on the second floor of Reiss.

Telephone Calls

You should use Department telephones for making business and emergency calls. You should keep personal calls to a minimum on those phones. If it is necessary to make personal long-distance phone calls on a Department phone, please inform the Biology Accounts Analyst, currently Ms. Alta Hayes, who will provide you with the bill at the end of the month.

Photocopying in the Biology Office

The photocopy machines in Room 406 are available to graduate students for copying material related to your research and graduate studies. However, if you photocopy material for personal use, please pay the Office Accounts Analyst \$0.05 per page.

Security

Unfortunately theft occurs in the Reiss Science Center and elsewhere at GU throughout the year. Many thefts have occurred especially during the winter holiday season. You should be especially careful to protect your property (backpacks, computers, books, tape recorders, etc.), the equipment and supplies in the laboratories, and supplies and information in departmental offices. Keep your valuables in a safe place, and lock doors and desks when no one is around. Emergencies and thefts should be reported immediately to Campus Security (687-4343) and the Biology Office (687-6247). Campus Security can mark your laptop, etc., for security purposes. Also, be sure to keep valuables with you when you use GU libraries. Laptop thefts are frequent at GU.

6. Student-Faculty Social Functions

Various informal receptions are held throughout the year to allow graduate students, faculty, and staff to interact in a relaxed setting and to develop departmental rapport. Those socials usually include a reception at the beginning of the school year to welcome new students, a holiday party, and a refreshment period prior to departmental seminars. Graduate students also often have refreshments with seminar speakers after seminars, usually in the Leavey Center.

7. Safety Training for Scientists

Because graduate students are involved in research in departmental labs, teaching labs, or both, they must receive basic training in general lab safety. Basic chemical and biological safety training sessions are offered monthly by the Environmental Health & Safety Office in the Medical Center. You may contact Ms. Susan Martin (martinsf@georgetown.edu) to determine class times and to register for a class that fits in your schedule. We strongly recommend that you complete the training class in August of your first year. You must complete one of these training classes by the end of your first semester. To satisfy this requirement you must provide a copy of the class completion certificate to the Biology Graduate Administrative Assistant.

The United States Government has a number of regulations regarding the conduct of research. Georgetown University must comply with all of the regulations in order to receive grant support. Thus, it is imperative that all graduate students are aware of, and comply with, the regulations. Some of the required training is listed below. Graduate students should discuss the regulations with their research mentors before beginning research in the laboratory. In addition, teaching assistants for certain courses may also require specialized training.

Use of Laboratory Animals

Before you may use laboratory animals in either teaching or research, you must address several requirements. First, all work (even just observation of behavior) involving vertebrates (fish, frogs, rats, etc.) requires submission of an animal-use protocol to the Georgetown University Animal Care and Use Committee (GUACUC) and its approval by that Committee. Such approval is a prerequisite for the purchase of animals. Ordinarily, the protocol is submitted by the faculty member in charge of a course or of the research, and it must be signed by the faculty member and by the Biology Chair. Second, your name must appear on the protocol as one of the persons responsible for doing the work. Third, the GUACUC will require that you complete a training course on the use of laboratory animals given by the veterinarians at the GU Research Resources Facility (RRF) as a condition of approval of the protocol.

It is extremely important that you adhere to these requirements. An accreditation committee visits Georgetown periodically, the USDA makes unannounced inspections of our facilities and labs twice each year, and both will ask to see records of animal use. Violations can jeopardize GU's accreditation for animal use. Please consult the big red vinyl-covered "Manual for the Care and Use of Laboratory Animals at Georgetown University," which is kept on the Office Manager's desk in the Biology Office (406 Reiss), or see Professor Eagles (424 Reiss) or Professor Singer (306A Reiss) if you have any questions.

Safety in Laboratories: The Chemical Hygiene Plan, Disposal of Hazardous Substances, and MSDSs

You should be aware of any hazardous materials (radioactive, toxic, etc.) in laboratories where you work and know the proper way to handle any hazardous materials you use in your research. All laboratories should have a printed *Chemical Hygiene Plan* and a binder containing *Material Safety Data Sheets (MSDS)*. Learn where these are kept within your research laboratory and become familiar with their contents. After consulting the appropriate manuals, make sure you ask the professor in charge for additional instructions if you have questions. Never store food or eat or drink in a laboratory.

The Office of Radiation Safety

All students, who have desks in laboratories where radioactive material is used, must become familiar with the nature of the isotopes being used and sign the laboratory "non-user" form. All students who work with radioactive material must receive training by the authorized user prior to conducting experiments and take the Radiation Training Course as soon as possible. The Course is not optional; it is required by federal law.

The Office of Biosafety, Human Blood-Borne Substances

A few Department laboratories work with human pathogens. If you are conducting research in those laboratories or are TF for courses using human pathogens, you must take a special training course provided by the GU Medical School. This course must be taken annually.

E. Your Teaching Experience and Teaching Fellowships (TFs)

As noted above in the introduction, the Department not only seeks to provide you with a solid education in research, but also to train you in how to become a good teacher. Some graduates will enter academics, whereas others will find careers in government, private industry, public policy, or elsewhere. Whatever career path you take, your ability to communicate both ideas and research results is key to your professional success. There is no better way to practice these skills than by teaching.

1. BIOL 504 (Teaching Biology: Pedagogy and Practice)

Excellence in teaching requires thought and preparation and is made easier by having a conceptual framework on which to build your actual teaching experiences. No matter how much experience you have had with teaching, there is always more to be learned. In order to facilitate your transition from teaching fellow to course instructor, a class has been developed to explore different aspects of teaching and learning. This course is taught in conjunction with the Center for New Designs in Learning and Scholarship (CNDLS, pronounced "candles"). This course (BIOL 504) is required of all Biology graduate students. A student ordinarily takes 504 during his (her) first year as a Biology graduate student.

2. Teaching Fellowships (TFs)

Teaching fellowships are an important part of your graduate training. All students are awarded four Teaching Fellow (TF) assignments as an opportunity to teach in different environments and to hone their skills. Usually, an assignment consists of responsibility for leading a major course activity (for example, leading a discussion group, teaching a laboratory section, etc.), attending all lectures, holding office hours for a limited number of students and grading exams, papers, or both. Each teaching assignment is expected to take approximately 10–12 hours per week. Students should meet with relevant faculty before the semester begins to discuss specific goals and expectations for that semester. The CGSS attempts to assign equivalent teaching loads to all Teaching Fellows across their graduate careers. Thus, while some semesters may have a more demanding teaching load than others, the CGSS attempts to balance this variation over your four required assignments. Students should inform the course instructor or Department Chair if their teaching assignments require more than 15 hours per week on the average. Time spent on intellectual preparation for the course is not included in those 15 hours.

3. TF Evaluations

Both the graduate students and faculty have expressed an interest in having a formalized mechanism for student evaluation of their performance. To this end, our Department employs a uniform TF evaluation form that is distributed to students at the end of a course along with faculty evaluation forms. This evaluation is intended to be helpful and provide students with a mechanism to offer constructive comments to TFs. The current TF evaluation form was developed by graduate students and CGSS faculty. Like any standardized form, it is not ideal for all courses but rather attempts to cover a broad range of general questions. The CGSS welcomes any comments from graduate students regarding possible changes to the TF form to make it more useful and appropriate.

Completed TF evaluations will be held by the professor until final grades are submitted (in the same way faculty evaluations are held by the GU Registrar until grades are submitted). The evaluations should be discussed with the professor responsible for the course and should become part of your academic file (meaning that graduate students should provide the Graduate Program Administrative Assistant with copies of the evaluations for their academic files). TF evaluations may be used by faculty when writing recommendation letters and as part of your application package for a position when you are nearing graduation and thereafter.

In addition, professors for whom you work will submit your performance rating to CGSS. The rating categories are: outstanding (performance well above faculty expectations), satisfactory (performance at the usual level of faculty expectations), marginal (performance almost at satisfactory level), and unsatisfactory (performance obviously below satisfactory). Your graduate degree is awarded for the combination of research, course work, and teaching. A student who fails in any of these areas does not merit a graduate degree. Therefore, after one unsatisfactory rating, the TF and faculty member will meet with the CGSS to discuss the reason for that rating. A second unsatisfactory rating or one unsatisfactory and one marginal rating will result in an automatic 5th TF assignment as well as meeting with CGSS. A 3rd less-than-satisfactory rating will result in withdrawal of your fellowship. The relevant faculty member should warn a student about potential negative ratings, both verbally and in writing, enumerating problems and with reference to the agreed-upon tasks drawn up at the beginning of the term.

F. Table 1. An Sample Schedule for Earning a Ph.D. This table is only one possible route for completion of your Ph.D. There are, however, many ways to reach that goal. This table indicates "benchmarks" students need to meet in order to complete the degree in the specified time.

Year	Fall semester	Spring semester	End of academic year & summer
1	<ul style="list-style-type: none"> – Take BIOL 501, BIOL 905, 1–2 additional courses* – Attend work-in-progress seminars (WIPs) – Attend departmental seminars – Attend laboratory meetings and journal club 	<ul style="list-style-type: none"> – Take BIOL 502, BIOL 906, 1–2 additional courses* – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club – Select a mentor or lab rotation 	<ul style="list-style-type: none"> – Take Ph.D. Qualifying Exam – Perform research – Select mentor – Establish initial Ph.D. Dissertation Committee – Have first committee meeting
2	<ul style="list-style-type: none"> – Take additional courses, BIOL 504, BIOL 955 or 999 – Present WIPs† – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club – Submit Dissertation Proposal Form 	<ul style="list-style-type: none"> – Take BIOL 955 or 999, complete courses – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club – Take comprehensive exam, if ready 	<ul style="list-style-type: none"> – Perform research – Have committee meeting
3	<ul style="list-style-type: none"> – Take BIOL 999 (zero credits) – Present WIPs† – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club 	<ul style="list-style-type: none"> – Take BIOL 999 (zero credits) – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club – Take comprehensive exam 	<ul style="list-style-type: none"> – Perform research – Attend committee meeting – <u>Take comprehensive exam by end of 3rd year</u>
4–6	<ul style="list-style-type: none"> – Take BIOL 999 (zero credits) – Present WIPs† – Attend WIPs – Attend departmental seminars – Attend lab meetings and journal club 	<ul style="list-style-type: none"> – Take BIOL 999 (zero credits) – Attend WIPs – Attend lab meetings and journal club – Have a committee meeting 	
	Present departmental seminar on the dissertation; defend dissertation; publish dissertation results		

*Including BIOL 503 or equivalent (biostatistics). †Present WIPs each year either during the spring or fall semester.

G. General Procedures for Obtaining a Ph.D.

1. Summary of Requirements

For students with Bachelor or M.S. degrees, satisfactory completion of:

- a. A minimum of 3 years in residence. (GU allows you a maximum of 7 years to complete your degree.)
- b. A minimum of 16 graduate-course credits exclusive of research credit (e.g., BIOL 905 or 955)
- c. Completion of BIOL 501, 502, statistics, and 504 (which all count toward your 16-credit requirement)
- d. Teaching experience as a TF for at least four (4) semesters
- e. A passing grade on your Ph.D. Qualifying Exam (PQE) (completed at the end of your first year)
- f. Ph.D. Comprehensive Examination (taken no later than end of your third year)
- g. Ph.D. Dissertation with defense
- h. Departmental Dissertation Seminar
- i. Preparation of at least one manuscript for publication

2. Minimum Requirements

The minimum time requirement for obtaining a Ph.D. is six (6) regular semesters in residence. A part-time student must spend at least one academic year in residence in the Department as a full-time student.

3. Credit and Course Requirements

Ph.D. students may take no more than 8 credits with numbers below 350 for graduate credit, and the proper paperwork must be completed to obtain graduate credit. (Please see "Registration" above). Because only 16 course credits are required for the Ph.D., you should only occasionally use undergraduate courses for graduate credit.

A Ph.D. student may register for Biology Research (BIOL 905 and 906) in his (her) first year for up to 10 credits. Biology Research has two main purposes. First, it allows students to undertake short-term research projects in different labs to gain different types of experimental skills. Second, it allows students to have an opportunity to explore research projects (and day-to-day life in different laboratories) prior to making a commitment to a dissertation project. (Please see "Laboratory Rotations" above.)

Incoming students may participate in Biology Research with different research laboratories, preferably during the first two semesters of enrollment. You should choose your dissertation lab no later than the end of your first summer at GU.

A second-year doctoral student, who is registered for some graduate courses and is pursuing dissertation research, should register for up to 12 credits of Credit Thesis Research (BIOL 955). Your completion of the 16 required credits does not imply that you have successfully completed all of your Ph.D. requirements. You are still required to register for Non-credit Thesis Research (BIOL 999) at a reduced tuition rate. Your Committee determines when you have satisfactorily completed your dissertation research.

4. Teaching Requirements

Each Ph.D. student is expected to attend teaching workshops and serve as a TF for at least four (4) semesters.

5. Ph.D. Qualifying Exam (PQE)

Your PQE involves your preparing an excellent grant proposal and defending it before Ph.D. Qualifying Examination Committee (PQEC). Biology administers the PQE in accordance with Graduate School policy. (Please see the Graduate School catalogue information.)

The main steps of your PQE include: (1) chose members of your PQEC, (2) organize your PQEC to meet with you as needed to review your progress, (3) prepare your grant proposal, (4) present a final draft of your proposal to your PQEC, and (5) orally defend your proposal.

Note: It is your responsibility to organize PQEC meetings. This includes contacting your PQEC members to find out when your entire PQEC can meet with you at particular meetings. You, or your PQEC, may call a PQE meeting.

Your PQEC shall comprise 3 regular-faculty professors – at least one EEB and one MCB Regular Faculty Professor in the Department of Biology and include your research advisor (if you have chosen one in your first year).

Note: The following are guidelines from the Committee of Graduate Students and Studies. Your Exam Committee may modify these guidelines as it sees fit.

Your proposal shall have a title, abstract, introduction (including your questions, hypotheses, or both), proposal body proper, and references. You shall not put any of your own original data into the proposal.

The body (introduction and proposal body proper) shall be 15–20 pages long (single spaced, 12–point Arial or Times New Roman as requested by your PQEC, 1-inch margins on all sides of a sheet of paper, copied on only one side of each sheet of paper). The other parts shall be as long as needed.

Your proposal topics shall incorporate both MCB and EEB concepts and techniques. If you are an MCB person, your proposal may be a maximum of 75% MCB and a minimum of 25% EEB subject matter. For example, if you have four specific aims, three aims shall have an MCB perspective, and one aim shall have an EEB perspective. If you are an EEB person, your proposal may be a maximum of 75% EEB and a minimum of 25% MCB subject matter.

Your proposal shall be a mock one and may, or may not, reflect work you actually plan to do. Often you will perform your actual thesis research on a system on which little prior work has been done. Writing a proposal on such as system would be difficult, whereas writing a proposal regarding a system that is at least a little more developed would be easier and more educational.

Time table

December. Chose your PQEC and exam topic. Meet with your PQEC to discuss your proposal.

January – April. Meet with your PQEC at least two times to discuss your progress. Your PQEC may wish to comment on your preliminary drafts.

Two weeks before your final exam, give your PQEC the final draft of your exam.

31 May. On or before this date, take your oral exam on your proposal.

Criteria for passing your exam include:

Understanding of your proposal area.

Application of relevant concepts to your grant proposal.

Logical synthesis of relevant concepts and facts.

Oral explanation of your proposal.

Excellent scientific writing.

Regarding your PQE, you can earn a pass with distinction, regular pass, or pass with remediation. “Pass with remediation” indicates that you have an academic deficiency that your PQEC believes can be remedied with a specific action, for example, completion of a specific course. Your PQEC specifies that action. If you fail your PEC, your PQEC may decide that you passed it at the M.S. level and you may retake it at the Ph.D. level. If you retake it at the Ph.D. level and fail it a second time, you will be dismissed from our Graduate Program. If you passed the exam at the M.S. level, your PQEC may allow you to attempt to earn a M.S. degree. The Department of Biology cannot provide a fellowship for completion of a terminal M.S. degree. After you complete your M.S. degree, your thesis committee has the option of allowing you to pursue a Ph.D. degree in our Department.

Your possible request to extend the deadline of your PQE must be submitted in writing to the CGSS prior to 15 April of the year of the Exam. The CGSS will allow your extension for only compelling reasons. You must pass both your PQE and Ph.D. Comprehensive Exam within 3 years of your entry into our Biology Program or else you may be dismissed from it. The PQE is taken by all Ph.D. candidates, including those entering our Department with advanced degrees.

6. Ph.D. Dissertation Committee (PDC) and Research

By the end of your first year, you should select a research area and a mentor, who will help you select the other members of your PDC. It must have at least four (4) faculty members at the time of your dissertation defense, including at least two (2) members from the Department and at least one (1) member from outside the Department. As soon as you establish your PDC or if you change members, please notify the CGSS in writing. The composition of your PDC is subject to approval by CGSS and the Chair. Your initial PDC must be established no later than the end of your first year in the Department (including the summer term). The composition of your PDC is fluid, especially in your first few years, and can be changed as your research develops.

Your PDC is responsible for your academic program, training, and research, as well as conducting your Ph.D. comprehensive examination and dissertation defense.

Your committee must meet at least once each year to evaluate your overall progress towards your degree. Students should schedule committee meetings and ensure committee members can attend. All members should be present. At least three members of the PDC must be present to constitute a PDC meeting. An affirmative vote by a majority of the committee is required to designate a dissertation as acceptable for defense and that a student passed his (her) defense. Immediately after the meeting, minutes from the meeting should be provided by the mentor to the student and a copy placed in the student's record in the Biology Office. The minutes should include: date, names of PDC members present, and a list of the important decisions and recommendations made. Please provide this information to the Graduate Administrative Assistant so that it can be included in your file.

A student is required to conduct at least 50% of his (her) dissertation research in the Department, which may include time spent doing field work under the direction of a faculty member in the Department. Collaborative research or training experience may be arranged with scientists outside of the Department (including off-campus research labs), subject to approval by your dissertation committee and the Chair.

Research accomplished by a student as a paid employee (either on or off campus) may not be used for a dissertation.

7. Ph.D. Comprehensive Examination (PCE)

You shall take your (PCE) after your successful completion of your PQE. The PCE is intended to assess your analytic and synthetic abilities in areas of biology pertinent to your goals as a scientist. The PCE may

take different forms, such as a written grant proposal, written dissertation proposal, written subject exams, or a combination of such exams. Your PDC may give you an oral exam related to the written material.

For maximum benefit to the student, the CGSS strongly recommends that the PCE be taken within the year after which a student completes all course work. The PCE, however, must be taken by the end of a student's third year. If a student does not pass the exam or obtain a waiver from CGSS by the beginning of the fourth academic year, he (she) may not be eligible for a fellowship.

8. Ph.D. Dissertation Proposal Form (Note Well: You must submit this form to the Graduate School at least 1 week before you defend your dissertation. However, you are encouraged to submit this form during the first semester of your dissertation research. The form is available online: http://grad.georgetown.edu/pages/forms_landing_page.cfm.)

9. Publication of Ph.D. Dissertation Results

You are required to prepare at least one scientific paper based on your dissertation for submission to a scientific journal. Learning to write such a paper is an important part of your education. Clearly, it is also highly beneficial for a new Ph.D. to have one or more papers published, in press, or both, in refereed journals before graduating.

10. Preparation of your Ph.D. Dissertation

Format Requirements from the Graduate School

Your dissertation MUST be in accordance with the directions in GU's *Guidelines for Dissertation and Thesis Writers*. This document is available at http://grad.georgetown.edu/pages/forms_landing_page.cfm. One of the Associate Deans in the Graduate School will examine your dissertation (usually page by page) to verify that it conforms to the rules; therefore, it is extremely important that you follow the directions provided by the Graduate School carefully. It provides a checklist for submitting your dissertation.

Writing Your Dissertation

Warning: Writing your dissertation is very time-consuming. Before you begin to write your dissertation, you would be wise to (1) determine with your PDC if you have enough data, (2) determine how to present your data, (3) discuss the format and contents of your dissertation with your adviser, (4) review the format regulations of the Graduate School, and (5) consult an excellent manual of scientific writing approved by your adviser. You should allow ample time for writing your dissertation, because it will take longer than you expect. It is important to get as much feedback as possible from your adviser as you are writing. Other members of your PDC will choose which drafts they wish to read as you progress. Some may wish to see many drafts in progress, others may wish to see only later drafts that you and your adviser have edited well. You should keep your PDC members well informed of your progress.

11. Application for Your Ph.D. Degree

GU awards M.S. and Ph.D. degrees at the end of each month (except June). To be awarded a degree, you must file an Application for Graduate Degree by the first business day of the month in which you intend to defend. (May is an exception, and other deadlines apply.) The application form is available at http://grad.georgetown.edu/pages/forms_landing_page.cfm.

12. Announcement of Your Departmental Seminar and Dissertation Defense

The Graduate School awards Ph.D. degrees, and you must notify it of your departmental seminar and dissertation defense times and date(s). Because the degree is certified by the Department of Biology, it is important that all members of the Department are also aware of your accomplishments. You may not

defend your M.S. dissertation, unless it is properly announced. Please give the Graduate Administrative Assistant at least 2-weeks advance notice, and she will assist you in announcing your defense.

Department Notification

At least 7 days prior to defense of your dissertation, you and your adviser are responsible for announcing your departmental seminar and defense of dissertation. Please place these four (4) items in the Biology Office mailbox reserved for dissertations:

- a. An announcement of your defense including date, time, and location. This item should also be placed in all faculty mailboxes and on Department bulletin boards.
- b. Abstract of your dissertation.
- c. Your curriculum vitae.
- d. A complete copy of your dissertation.

University Notification

At least 7 days prior to your defense, you and your adviser must announce the defense to the Graduate School by filling out:

- a. the online form (Doctoral Defense Schedule) at http://grad.georgetown.edu/thesis_defense_application/ .
- b. the online form (Thesis Reviewers Report) (http://grad.georgetown.edu/pages/current_student_forms.cfm). All members of your dissertation committee must sign this form indicating your dissertation is ready for defense. This does not guarantee that your dissertation is acceptable in its submitted form.

13. Submittal of the Final Draft of Your Dissertation

Application for Graduate Degree

After your defense, you must revise your dissertation. It must then be approved by the following:

- a. your PDC,
- b. your adviser, and
- c. your Department Chair

It is strongly recommended that you allow, at the VERY LEAST, 2 weeks after your defense to make revisions and corrections as recommended by your PDC, and to obtain final signatures approving your dissertation.

After the appropriate forms are signed, call the Graduate School for an appointment. It will examine the dissertation to make sure you have followed all of the directions. **YOU MAY NEED TO MAKE MORE CHANGES.** After your dissertation is completed, hand-carry it and its cover sheet to the Graduate School and obtain a receipt. **DO NOT** send your dissertation to the Graduate School by regular mail.

H. Table 2. A Sample Schedule for Earning an M.S. This table provides only one possible route for completion of your M.S. there are, however, many ways to reach that goal. The table indicates "benchmarks" a student needs to meet in order to complete the degree in the specified time.

Year	Fall semester	Spring semester	End of academic year and summer
1	<ul style="list-style-type: none"> – Take BIOL 501, BIOL 905, plus one additional course* – Attend work-in-progress seminars (WIPSS) – Attend departmental seminars – Attend laboratory meetings and journal club 	<ul style="list-style-type: none"> – Take BIOL 502, BIOL 906, plus 1–2 additional courses* – Attend WIPSS – Attend departmental seminars – Attend laboratory meetings and journal club – Select mentor 	<ul style="list-style-type: none"> – Take M.S. Comprehensive Examination (MCE) – Perform research – Form MDC – Obtain MDC approval of dissertation proposal
2	<ul style="list-style-type: none"> – Take course work as needed* – Take thesis research 955 or 999 – Present WIPSS† – Attend WIPSS – Attend departmental seminars – Attend laboratory meetings and journal club – Have committee meeting 2 to evaluate progress. – Submit dissertation proposal to Graduate School 	<ul style="list-style-type: none"> – Complete course credits* – Thesis research 955 or 999 – Attend departmental seminars – Attend laboratory meetings and journal club – Attend WIPSS 	<ul style="list-style-type: none"> – Perform research – Write dissertation – Present dissertation seminar – Defend dissertation
	Have final Committee meeting; defend dissertation; present Department seminar of dissertation.		

* Including BIOL 503 (biostatistics) and BIOL 504 (Teaching Biology) taken in either year 1 or year 2.

I. General Procedures for Obtaining an M.S.

1. Credit Requirements

- a. a minimum of 24 graduate course credits (excluding research credits: 905, 906, 955, and 999)
- b. a minimum of 2 semesters and 1 summer in residence.
- c. 6 credits of dissertation research (BIOL 955)
- d. 1 TF assignment per semester while a full-time student
- e. M.S. Comprehensive Examination
- f. M.S. dissertation with defense
- g. Departmental seminar on your dissertation

Minimum Time Requirement

The minimum time requirement for obtaining an M.S. degree is two regular semesters plus one summer session.

A total of 24 course credits and 6 credits of Credit Thesis Research (BIOL 955) is required. At least 16 of these credits, exclusive of BIOL 955 credits, should be obtained in our Department. No more than 8 credits with numbers below 350 may be taken for graduate credit, and the proper forms must be filled out to obtain graduate credit for undergraduate courses. (Please see the "Registration"

section above.) No more than 4 credits for Biology Research (BIOL 905 and 906), out of the 24 course credits, may be counted toward your M.S. degree. A full-time graduate student is expected to take at least 9 credits of course work each semester during the first year of residence. These are minimum requirements. Additional ones may be established at the discretion of your MDC, the CGSS, or both.

2. M.S. Comprehensive Examination (MCE)

The purpose of your MCE is to prepare a specific document and defend it to your MC Examination Committee (MEC). Your document will be a grant proposal. Your document should be relevant to your research focus, and it should include biological information related to both BIOL 501 and 502. The Department of Biology gives the MCE in accordance with Graduate School policy. (Please see the Graduate School catalogue information.)

The main steps of your MCE are: (1) choose members of your MEC; (2) organize your MEC to meet with you as needed to review your progress; (3) prepare your proposal; (4) present a written copy of your proposal to your MEC; and (5) orally defend your proposal. The CGSS recommends that you form your MEC in October of your first year at GU. You should take your MCE in May of your first year. More information about proposal writing is above (under Ph.D. Qualifying Exam).

Note: It is your responsibility to organize MEC meetings. This includes contacting your MEC members to find out when your entire MEC can meet with you at particular meetings. You or your MEC may call a MEC meeting.

Your MEC should comprise 2–3 regular-faculty professors, including your research advisor (if you have chosen one in your first year). Further your MEC should include one EEB and one MCB Regular Faculty Professor.

Your MEC will decide on the format and style of your proposal, guide your proposal writing, set deadlines with you, and grade your final proposal.

A student can pass his (her) MCE with distinction, pass, or pass with remediation, or fail. "Pass with remediation" indicates that you have an academic deficiency that your MEC believes can be remedied with a specific action, for example, completion of a specific course. Your MEC specifies that action. Failure indicates a more serious deficiency. If a student fails his (her) MCE, his (her) MEC decides what the student should do with regard to the MCE to remain in our M.S. Program. A student is allowed to retain his (her) fellowship until he (she) completes the MCE. A second failure of the MCE will result in a student's dismissal from the Biology M.S. Program.

Your possible request to extend the deadline of your MCE must be submitted in writing to the CGSS prior to 15 April of the year of the MCE. The CGSS will allow your extension for only compelling reasons. You must pass both your MCE within 2 years of your entry into our Biology Program or else you may be dismissed from it. The MCE is taken by all M.S. candidates, including those entering our Department with advanced degrees.

3. M.S. Committee (MDC) and Research

Your MDC must consist of at least three (3) members, with two (2) members from our Department and one (1) member from outside of our Department. By the end of your first academic year, you should choose a research area and a dissertation mentor. After you accomplish this, you and your mentor will select your MDC. As soon as you set up your MDC, or if you change any part of it, please notify the CGSS. Your MDC usually meets 3–4 times. For example, in meeting 1, your MDC is "officially" established and you and your MDC discuss your dissertation proposal. In meeting 2,

you all assess your progress. In meeting 3, your MDC decides if you have obtained sufficient data to answer your research question(s), test your hypothesis(es), or both. Meeting 4 is your defense of dissertation.

Research accomplished by a student as a paid employee (either on or off campus) may not be used for a dissertation.

4. Dissertation Proposal

All research M.S. students must have a written dissertation proposal that is approved by their MDCs. The format of your proposal is up to your MDC. Once it approves your proposal, you must submit a copy to the Graduate School. Please, do not forget! This is your responsibility. Also, give a copy to the CGSS Assistant in the Biology Office for your file.

5. Preparation of Your M.S. Dissertation

Obtain Format Requirements from the Graduate School

Your dissertation must be in accordance with the directions in GU's Guidelines for Dissertation and Thesis Writers. A copy of this document is available at http://grad.georgetown.edu/pages/current_student_forms.cfm. One of the Associate Deans in the Graduate School will examine your dissertation (usually page by page) to verify that it conforms to the rules; therefore, it is extremely important that you follow the directions provided by the Graduate School carefully. It provides a checklist for submitting your dissertation.

6. Writing Your Dissertation

Warning: Writing your dissertation is very time-consuming. Before you begin to write your dissertation, you would be wise to (1) determine with your MDC if you have enough data, (2) determine how to present your data, (3) discuss the format and contents of your dissertation with your adviser, (4) review the format regulations of the Graduate School, and (5) consult an excellent manual of scientific writing approved by your adviser. You should allow ample time for writing your dissertation, because it will take longer than you expect. It is important to get as much feedback as possible from your adviser as you are writing. Other members of your MDC will choose which drafts they wish to read as you progress. Some may wish to see many drafts in progress, others may wish to see only later drafts that you and your adviser have edited well. You should keep your MDC members well informed of your progress.

7. Application for Your M.S. Degree

Master's and doctoral degrees are awarded at the end of each month (except June). To be awarded a degree, you must file an Application for Graduate Degree by the first business day of the month in which you intend to defend. (May is an exception, and other deadlines apply.) The application form is available at http://grad.georgetown.edu/pages/current_student_forms.cfm.

8. Announcement of Your Departmental Seminar and Dissertation Defense

At least 7 days prior to defense of your dissertation, the student and his (her) mentor are responsible for announcing the student's departmental seminar and the defense of dissertation. These four (4) items are placed in the Biology Office mailbox reserved for dissertations:

a. An announcement of your defense including date, time, and location. This item should also be placed in all faculty mailboxes and on Department bulletin boards.

- b. Abstract of your dissertation.
- c. Your curriculum vitae.
- d. A complete copy of your dissertation.

University Notification

At least 7 days prior to your defense

a. you and your adviser must announce the defense to the Graduate School by filling out an online form called Thesis Reviewers Report (http://grad.georgetown.edu/pages/current_student_forms.cfm). All members of your dissertation committee must sign this form indicating your dissertation is ready for defense. This does not guarantee that your dissertation is acceptable in final form.

b. you must place a complete copy of your dissertation in the Biology Office mailbox reserved for dissertations

9. Submittal of the Final Draft of Your Dissertation

After your defense, revise your dissertation. It must then be approved by the following:

- a. your MDC,
- b. your adviser, and
- c. your Department Chair

Warning: The CGSS strongly recommends that you allow, at the very least, 2 weeks after your defense to make revisions and corrections as recommended by your committee, and to obtain final signatures approving your dissertation. After the appropriate forms are signed, please call the Graduate School for an appointment. It will examine your dissertation to make sure you have followed all of the directions. You may need to make more changes. After your dissertation is completed, hand-carry it and its cover sheet to the Graduate School and obtain a receipt. Do not send the dissertation to the Graduate School by regular mail.

J. Additional Information for M.S. and Ph.D. Students

Transferring of Graduate Credits to Georgetown University

You may transfer to GU a maximum of 25% of the total number of required credits for your degree from another university. Only graduate courses, taken at another university, that were not used for credit toward an awarded degree, can be transferred. The credits are not automatically transferred or accepted. Therefore, if you wish to have credits from another university transferred to GU, you should do the following: Obtain the guidelines from the Graduate School and write a letter to the CGSS requesting approval to transfer graduate credits. In that letter, you must provide your official transcript, indicate which credits you wish to transfer, and include a description of the courses taken at the other institution (for example, give the CGSS a course's description in the university's course catalogue) you wish to transfer. The CGSS will consult with your research committee. If your request is approved, the CGSS will send a letter requesting approval for the transfer of credits to the Dean of the Graduate School. You will be notified of the Dean's decision by letter.

Academic Standing

You are expected to maintain at least a B (3.00) average. The Graduate School, CGSS, and Department will review your performance at the end of each semester. If your performance is poor, the CGSS may recommend to the Chair that you be dismissed. If the Chair concurs, dismissal will be recommended to the Dean. In an exceptional circumstance, the Chair may independently recommend dismissal. An "F" in two

courses will ordinarily result in a dismissal recommendation. Dismissal is usually for academic reasons; however, a dismissal may be recommended to the Dean whenever it appears to be the best interest of the focal student, the Department, or the University, including poor performance as a TF. You must have a 3.00 average to take the MCE and the PCE. It is your responsibility to verify that you have met this requirement prior to taking these exams.

Change of Status

"Change of graduate-student status" means a change from an M.S. status to a Ph.D. status or vice versa; a change from special-student status to graduate-student status; or dismissal from our program. A request for a change may come from you. A recommendation may come from an individual professor, your AAC, MDC, PDC, or the CGSS. The CGSS reviews all such recommendations and either approves or disapproves them. The CGSS sends a notification of its action to the Chair who sends approval or disapproval to the Dean. Changes in status may relate to things such as quality of your performance in a formal course, research progress or lack thereof, teaching, or your general attitude. In each case of "change of status" action, the best interests of the student, Department, and University are carefully considered. You have the right to request to appear before the CGSS to discuss a pending action or to appeal a decision to the CGSS, Chair, or Dean.

Leave-of-absence

If external events threaten to interfere with normal progress in your graduate program, you may seek a leave-of-absence. You should consult with your adviser and the CGSS in advance, because your absence may have ramifications for fellowship and TF scheduling. The procedures for application for a leave-of-absence are described in the Graduate School online catalog. Your application should be approved by your adviser and the Chair before it goes to the Graduate School.

Appeals

If you wish to appeal any academic decision that is made about you, such as a grade in a course or on an exam, you should first discuss the situation with the professor involved. Appeals may be made first to the Chair and then to the Dean.

Predoctoral Grants

Graduate students are encouraged to seek external fellowship support. Writing research proposals helps in the process of developing and articulating research ideas. Further, developing a record of successfully funding your research (the dollar amount is essentially irrelevant) is an important part of your career progress. There are several online services that list available funding opportunities. Please consult your adviser or one of the co-chairs of the CGSS for advice in writing a grant for pre-doctoral support.

Funds for Scientific Meetings

The Department has limited funds to cover travel expenses so that students can present at scientific meetings. If you wish to apply for such funds, please discuss the situation with your adviser and then write a brief memo to the CGSS requesting funds. Include the name of the meeting, the title of the presentation you will give, and an estimate of the cost. If approved, the CGSS will forward the request to the Biology Accounts Analyst. The Graduate School also may have funds for attending meetings, and you should seek those prior to seeking departmental funds.

Change of Address or Telephone

Please notify the Department Office and the Registrar's Office (in White-Gravenor) as soon as possible if you change your address or telephone number. The Registrar's Office mails your grades to you at the end of each

semester and informs you if there had been a change in the registration schedule. Foreign students must also notify the Office of International Programs regarding all address changes.

K. Graduate Student Organizations

Georgetown University Graduate Student Organization (GSO)

The purpose of the GSO is to promote communication among all graduate students from different departments. The GSO sponsors seminars, socials, and other special events. The biology graduate students elect one representative each year. Please see <http://media.georgetown.edu/gso/>.

Biology Organization of Graduate Students (BOGS)

BOGS is organization of graduate students within our Department. Students established it to make program recommendations and to represent their views. BOGS is composed of one elected representative from each class year. Graduate students should address their concerns and problems to the members of BOGS.

Representatives to Faculty and Graduate Student Meetings

Graduate students elect one or two graduate students representatives to monthly faculty and GSO meetings.

Representatives to the CGSS

Graduate students elect one or two graduate students representatives to CGSS meetings.

L. Graduate Student Bill of Rights

(Originally Prepared by the Graduate Students and accepted by the Faculty, circa 1990, updated by the CGSS in 2005 and 2006)

I. Student-Mentor Interactions

A. Good communication between a mentor and a student is absolutely critical in order to perform quality science and maximize the education experience. It is the student's right to expect that the mentor be actively [intellectually] involved in each student's project. The participation of the mentor in the student's project enables the pair to anticipate and resolve problems in a timely fashion.

B. It is critical that a mentor and graduate student schedule frequent meeting times to discuss the student's progress and problems and current literature, and to provide encouragement and support. Although flexibility is essential in order to accommodate individual schedules, students have the right to expect such meetings.

C. The expectations that the mentor has of the student should be made clear from the time when the student joins the mentor's lab. It is realized that expectations may change somewhat as a research project evolves, and that these changes should be discussed. The student must ask questions concerning the parameters of any potential dissertation projects, comprehensive exam formats typically followed in the mentor's lab, responsibilities as a member of that lab group, career options, etc. It is recognized that the student has the right to initiate discussions pertaining to both the mentor's and the student's expectations of each other and the project, the student's career goals, and how the student's training can prepare for these goals. The student is also responsible for conveying any concerns and changes in personal career goals to his, or her, mentor.

D. The student should exercise his, or her, right to be involved in the development of his, or her, dissertation from start to finish. During the process of choosing a dissertation, a student is encouraged to discuss with his, or her, committee, or with other scientists the degree of risk associated with any dissertation projects that are considered. A time limit should be established in order to provide a reasonable point at which the project can be reevaluated and when other approaches must be considered. In order to avoid delays due to project failure, it is recommended that alternative strategies, or options, be discussed early in a student's project. At a minimum, dissertation progress and expectations must be reviewed annually by the committee.

II. Qualifying and Comprehensive Exams

A. A formal statement as to the purpose of the M.S. Comprehensive Exam and Ph.D. Qualifying Exam is in this Graduate Student Handbook. You should be aware of the format, grading, and of the consequences of exam failure.

B. A formal statement as to the purpose of the Ph.D. Comprehensive exam is in this Graduate Student Handbook. Students are encouraged to ask their mentors about the formats used in their labs and those used in other labs. The student has the right to know the format of the comprehensive exam that is given in the lab that the student has chosen to enter.

III. Student responsibilities and rights as a member of the Georgetown University Department of Biology.

A. Teaching fellowships are recognized as an essential part of our Graduate Program, and it is the responsibility of the student to devote the appropriate amount of time needed for both physical and mental preparations for each lab session. It is recognized that it will take different students different amounts of time to become prepared. In a semester in which a student is serving as a teaching fellow, that student is expected to spend approximately 15 hours, excluding intellectual preparation, over the course of the semester. If a particular TF assignment requires significantly more time than this, it is the responsibility of the student to bring this to the attention of the course instructor, or, if need be, to the CGSS or Chair.

B. It is the student's right and responsibility to ask his, or her, mentor, other faculty members, or both, about the availability of outside grants or scholarships for which he, or she, may apply. To be awarded such a grant has recognizable financial benefits to the student, lab, and Department, as well as the provision of valuable experience in abstract and proposal writing and field exposure for the student. It is also a helpful addition to a resume.

C. It is the student's right and responsibility to attend and participate in departmental functions such as our Friday-afternoon seminar series.

M. Biology Personnel

Departmental Chair

Professor Douglas A. Eagles

Committee of Graduate Students and Studies

For 2006–2007, the Tentative Committee is

Professor Steven Singer

Professor Edd Barrows, Chair

Biology Office (2006 2007, 405 Reiss)

Office Manager: Mrs. Dee Hill

Assistant Office Manager, Graduate Program Assistant: Mrs. Lynn Miller

Accounts Analysis: Ms. Alta Hayes

Assistant to the Chair: Ms. Sara Fisher

Work-study Students:

Graduate Students, Other Staff, Other Professors

The Biology Office can give you a current list of personnel and their room numbers, phone numbers, and e-mail addresses.

N. Outside Jobs and Fellowed Graduate Students

The GU Graduate School allows fellowed graduate students to have outside jobs. Such jobs can help to "make ends meet;" however, they can also significantly slow students' progress. To improve your chance of finishing your research and dissertation on time, it is imperative to discuss your outside job(s) and work hours with your adviser.

O. GU Graduate Biology Student of the Year

Each fall, the Department votes on the Graduate Biology Student of the Year. Graduate students and faculty nominate students for the award. Graduate students as a group get one vote and each faculty member gets one vote for deciding the awardee who graciously accepts a monetary and other award at a special autumn awards ceremony.

P. Biology Graduate Information Online

More information about our Graduate Program is at <http://bioserver.georgetown.edu/> .

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