



This Biochemistry and Biophysics Graduate Student Handbook extends and complements the [Graduate School's online guide](#) that describes the flow of and requirements for the general journey through a graduate program at OSU. Here, we focus on the specific policies and culture of the Department of Biochemistry and Biophysics to help facilitate the timely completion of graduate training. This section is presented in chronological order, so that students and faculty can be aware of and easily check off appropriate benchmarks accomplished while passing through the various stages of the student's graduate career at OSU.

1. Contact Information

a. Department Personnel

Elisar J. Barbar

Elisar.Barbar@oregonstate.edu

Head, Department of Biochemistry & Biophysics

Kimberly Webster

Kimberly.Webster@oregonstate.edu

Graduate Program Coordinator & Office Manager

Phone: (541) 737-4511

Nathan Mortimer

nathan.mortimer@oregonstate.edu

Graduate Program Director and Co-Chair, Graduate Program Committee

Graduate Student Advisor

Ryan Mehl

Ryan.Mehl@oregonstate.edu

Co-Chair, Graduate Program Committee

Phone: (541) 737-4517

b. Department Information

Department of Biochemistry & Biophysics

2011 Ag Life Sciences Bldg.

Oregon State University

Corvallis, OR 97331

Phone: (541) 737-4511

c. **Program website address:** <https://biochem.oregonstate.edu/graduate>

d. **Graduate School**

What is the [Graduate School](#)?

- The Graduate School at OSU assures quality and consistent interpretation of Graduate Council policies related to graduate education across all programs. The [OSU Catalog](#) is the official source for information regarding OSU graduate education policy and procedures. It is the student's responsibility to refer to the catalog for this information.
- The Graduate School supports students throughout the academic [lifecycle](#), from admissions to degree completion.
- The Graduate School, and its campus partners, offer an array of [professional development opportunities](#) specific to the success of graduate students. Topics include research and ethics, teaching and facilitation, writing and communication, leadership and management, career skills, grad life and wellness. Please visit the Graduate School links to browse our student success offerings.

e. **University Emergency Contacts**

OSU is dedicated to providing a safe and secure learning and living environment for its community members. [The Department of Public Safety](#) provides resources, information, emergency phone numbers, and protocols for maintaining personal safety. Sign up for [OSU Alerts](#) to get timely messages delivered right to your phone or inbox regarding university closures and other emergency situations.

2. Academic and Support Resources

OSU offers a wide array of academic and support resources designed to meet graduate student needs. Some of the more commonly used resources are included below. For a more complete list, please visit the Graduate School's [Student Resources web page](#).

[Campus Safety](#) – Emergency phone numbers, university alerts

[Career Development Center](#) – Resume/CV, networking, job search strategies

[Childcare and Family Resources](#) – University child care centers, child care assistance

[Counseling and Psychological Services \(CAPS\)](#) – Individual and group counseling

[Cultural Resource Centers](#) – Cultural based community centers, social support

[Disability Access Services \(DAS\)](#) – Academic accommodations

[Equal Opportunity and Access \(EOA\)](#) – Employment accommodations, discrimination or bias response

- [Financing your education](#) – Funding options and information, graduate awards
- [Graduate Student Commons](#) – Lounge, study space, reservable meeting rooms
- [Graduate Writing Center](#) – Writing workshops, groups, and 1:1 writing coaching
- [Health Insurance](#) – Plans for graduate students and graduate employees
- [Human Services Resource Center \(HSRC\)](#) – Food pantry, housing and food stamp assistance
- [Institutional Review Board \(IRB\)](#) – Review for human subjects research
- [Office of International Services \(OIS\)](#) – Visa and immigration advising
- [Ombuds Conflict Management Services](#) – Informal, impartial conflict resolution advising
- [Recreational Sports](#) – Dixon Recreation Center, intramural sports
- [Statistics Consulting Service](#) – Graduate student research statistical advising
- [Student Health Services \(SHS\)](#) – Clinic and pharmacy
- [Student Multimedia Services \(SMS\)](#) – Poster printing, equipment and laptop loans
- [Transportation Services](#) – Parking permits, bike, bus, SafeRide
- [Valley Library](#) – Reference and research assistance, study spaces, research tools

3. Program Information and Policies

a. Department Background and Mission

Our mission in the Department of Biochemistry and Biophysics is to be a diverse, inclusive community that serves students, our professions and the public through innovative education, individualized advising, holistic mentoring, and cutting-edge molecular life science research that creates knowledge and solves real-life problems.

Accomplishing this mission entails being a diverse and inclusive community that:

- provides excellent, pedagogically effective classroom and laboratory training for students at Oregon State University and around the world;
- provides caring, individualized advising for our majors that helps prepare them for success in their chosen careers and in life;
- develops innovative educational resources;
- performs significant original research into the myriad of molecular mechanisms underlying life and disease, creates marketable technologies that practically benefit society, and provides transformative hands-on training for undergraduate students, graduate students and postdoctoral fellows; and

- provides service and leadership to our professional communities and through effective outreach helps educate the public about our discipline and the value of science.

Through accomplishing this mission, we envision changing the world through scientific discoveries and empowering educational experiences for all students. And as we accomplish this mission, we seek to do all we do in ways that are consistent with the values of:

- **Integrity** – We act ethically, with honesty and honor, and without compromising the truth to ensure we do what is right.
- **Diversity and Respect** – We recognize that diversity and excellence go hand-in-hand, enhancing our teaching, scholarship, and service. We respect all people, value the perspective and credibility of individuals from different racial, ethnic and socioeconomic backgrounds, and treat people in the way we want them to treat us.
- **Teamwork and Community** – We care about and help each other. We have fun working together. To maximize our collective impact, we inspire, challenge, and support each other to be the best we can.
- **Service** – We are public employees and take seriously our calling to serve our community, state, country, and the world.
- **Excellence** – We commit to constantly improve and provide the highest quality work that exceeds the expectations of our students, colleagues, administrators, collaborators, alumni, and supporters or stakeholders. We change lives for the better by striving for excellence.
- **Knowledge** – Curiosity drives us to create new knowledge through research, discovery and invention. We are experts in our fields and enthusiastically share knowledge and ideas with our constituents through effective communication and teaching.

The Department of Biochemistry & Biophysics is one of seven academic departments in the [College of Science](#). Research in the department is supported by over \$4 million dollars annually from external grants. The department is well equipped with research facilities that include confocal and laser dissection microscopy, flow cytometry, X-ray crystallography, NMR, mass spectrometry, in-house access to high-throughput DNA sequencing, analytical centrifugation, and computational resources, and is supported by additional facilities and staff in the [Center for Quantitative Life Sciences](#).

Oregon State University is a broadly based public institution enrolling about 25,000 undergraduate students. It is one of only two U.S. universities holding Land, Sea, Sun and Space Grant status. Accordingly, the university has developed strong programs in the sciences, agriculture, oceanography, and forestry. The main campus is located in [Corvallis](#), a college-oriented city of about 60,000 inhabitants in the lush Willamette Valley. Corvallis is a short drive from both the Oregon Coast and the snow-capped Cascade mountains.

b. Overview/background of program

The graduate program in the [Department of Biochemistry and Biophysics](#) at [Oregon State University](#) grants primarily doctorate (Ph.D.) degrees, but also offers thesis and non-thesis Master of Science (M.S.) degrees. We offer a broad range of research topics through the core [faculty](#) within the department, those associated with the [Linus Pauling Institute](#), and affiliate Adjunct Faculty from departments throughout the OSU campus.

Research interests of the faculty in the graduate program include Molecular Biophysics and Structural Biology, Protein Engineering, Cellular and Molecular Biology, Computational Biology and Bioinformatics, and Biochemistry Education.

Our graduate students play a central role in carrying out our mission:

- through their active involvement in our research projects,
- through excellence in teaching,
- through the diverse backgrounds and perspectives they bring to the program, and
- through their active participation in helping create a community that is welcoming and supportive for all.

Through education and mentoring in our program they become research and education leaders of the next generation.

c. Learning outcomes/competencies

- i. Produce and defend an original significant contribution to knowledge
- ii. Demonstrate mastery of subject material
- iii. Conduct scholarly or professional activities in an ethical manner
- iv. Summarize central issues and research problems in BB
- v. Identify and explain areas of uncertainty in BB
- vi. Design & carry out original research
- vii. Effectively communicate in BB

d. Requirements for degree

- i. **Coursework:** 108 total credit hours are required for the degree, 27 credit hours of which must be “non-blanket” courses (i.e., non-research, non-seminar courses). These credits will include the BB Core Curriculum (18 credit hours) and 9 credit hours of electives. Students are also expected to complete the first-year seminar series, and attend weekly department seminars.

BB Graduate Program Core Curriculum: First year courses to be taken by all students:

Fall	Winter	Spring
BB581 Biophysics 1 (3)	BB582 Biophysics 2 (3)	BB583 Biophysics 3 (3)
BB590 Biochemistry 1 (3)	BB591 Biochemistry 2 (3)	BB592 Biochemistry 3 (3)
BB699 First-Year Seminar (1)	BB607 First-Year Seminar (1)	BB607 First-Year Seminar (1)
BB607 Department Seminar (1)	BB607 Department Seminar (1)	BB607 Department Seminar (1)
BB601 Lab rotation research (8) ^a	BB601 Lab rotation research (8)	BB603 Graduate Thesis (8)

^aThe number of credits for each class are shown in parentheses. Select the number of lab rotation research credits so that total number of credits equals 16. It is shown as 9, which is correct if just the core courses are taken.

Usually, students do not have time to take elective classes during the first year as they will take core classes (successful completion of which will constitute part of their preliminary examination), complete required lab rotations, and typically serve as teaching assistant (TA), not allowing time for additional classes.

Opting out of the BB 590 series

1. Opting out is on a case-by-case basis but it is an option for graduate students who have taken a whole year (3 quarters or 2 semesters) of a graduate-level Advanced Biochemistry course, with a grade of B or better.
2. The student should contact the graduate committee with their request at least two weeks prior to the start of the term they wish to opt-out and submit their grades and syllabi for the Advanced Biochemistry course.
3. The student can also decide to opt out on a term basis, following the criteria above.

Please keep in mind that by opting out, you will have to study the BB 590 series material on your own, as questions from the series could be on your prelim exam. It is your responsibility to sign up for other graduate level BB classes to satisfy the number of credits needed for graduation.

After Winter term of Year 1 students will register for BB603 – Graduate Thesis, instead of BB601. When registering, the total number of credits should equal 16 during Fall, Winter and Spring terms. If the graduate student is on a stipend during the Summer term, they typically register for a total 5 credits of BB603 (or other courses).

Every student will sign up for BB 607 SEM/Departmental Seminar every term, unless it creates a conflict with an elective course.

Elective Courses

For the Ph.D. program, 108 total credit hours are required, 27 credit hours of which must be “non-blanket” courses (i.e., non-seminar courses). Students taking the core first-year series will need to complete an additional

9 credit hours of non-blanket courses. For more information see the [Graduate School program forms](#).

For electives that can be taken in Year 2 and Year 3, please see our [course offerings](#) online. Students with an M.S. degree are encouraged to meet with the Graduate Student Advisor to discuss transfer credit.

Other useful links:

[Summary of BB programs](#)

[Graduate School information and Catalog of Classes](#)

[Policies governing M.S. degree and Ph.D. degree programs](#)

Up-to-date [Graduate School forms](#).

- ii. **Preliminary Exam:** This is an oral examination of at least two hours in length and equivalent to what is called “qualifying” or “advancement to candidacy” exam at other institutions. ***In the BB program, this exam MUST be passed by the end of the Fall term of the third year to remain in good standing in the PhD program. Scheduling this exam is the responsibility of the student (usually in close consultation with the mentor).*** At this point a student will usually have successfully completed most of the coursework in the program of study. After passing this examination PhD students are also referred to as “candidates”.

In preparation for the exam, you must submit to each committee member a written ***thesis proposal*** that describes your thesis problem, summarizes research progress to date, and outlines research strategies for the goals yet to be attained. ***The quality of this written document is evaluated and is part of the examination.*** The thesis proposal is not a contract for what must be accomplished during the Ph.D. program, but it should be a cohesive research proposal that defines the research topic to be addressed and its significance, and presents a plan for research that is well-reasoned and defensible based on what is known at the time, and that is of a scope reasonable for a Ph.D. thesis. Although some of the ideas and approaches presented in the proposal may have come from your mentor or others (typical of the collaborative nature of science), it is essential that the proposal is written in your words and that it covers material over which you have intellectual ownership. In preparing the proposal, you may have your mentor and others read rough drafts and provide feedback, but the writing should be yours. The purpose of the preliminary exam is for the committee to assess whether you have mastery of your proposal subject and to show that you have the intellectual and organizational abilities to succeed in doing research at the Ph.D. level. This includes being able to define a problem, research the topic, design a research strategy, and carry it out and interpret the results effectively. The proposal also could provide an excellent starting point for a fellowship application (but that is independent of the examination).

The “prelim” or “thesis” proposal must be submitted to all committee members at least one week before the scheduled date of the exam, ideally as an electronic text file and a printout (in the mailboxes of the committee members). At the exam, it is expected that all committee members have read the proposal, and so an extensive research presentation is not necessary. Talk with your advisor about what the exam will be like and how they would like you to start it. Typically, you will give a 5- to 20-minute opening presentation to highlight for the committee the context and importance of the problem being addressed and the main aims to be pursued while distinguishing briefly what you have already done as opposed to what remains to be done. Unlike a seminar, your presentation will be interrupted by questions from the committee members (and may even never be completed). As the presentation continues or after it is completed, a common process is for committee members to go through a few rounds of taking turns in asking whatever questions they would like, with other committee members chiming in with related questions or comments.

The first part of the oral exam is focused on the student's research project and related areas. For instance, a student working on gene expression should understand all aspects of DNA biochemistry, structure and function, as well as RNA biology as represented in part by content of advanced courses taken by the student. Whatever your topic, in addition to technical knowledge about methodology you should also be knowledgeable about the biological context and significance of the project and the relevant literature, as well as being able to justify how the chosen aims and research strategies are appropriate for the problem, what kinds of results might be expected and how they would be interpreted, and what might be limitations of the chosen approach and/or alternate approaches to achieve the aims. This part of the exam is used to assess your ability to plan and conduct research, to think critically and creatively about questions in your area of interest, and to be aware of current and recent research literature in these areas.

The second part of the exam will encompass general questions in the broader area of Biochemistry and Biophysics; this will include all coursework you have taken at OSU. The advice here is to ***prepare, prepare, PREPARE*** both in terms of timely and careful preparation of your thesis proposal, as well as key topics covered in your coursework, especially any of them that were taught by your committee members. It is generally useful to work with your mentor and the other members of the research group to discuss and practice answering questions concerning your work.

When the committee members have no further questions, the student will be asked to step outside. At this point the Graduate Council Representative (GCR) leads a discussion focused on evaluating the student's performance and each committee member votes either “pass” or “fail.” If there are zero or one “fail” votes, the exam is passed. If there is more than one “fail” vote,

the exam is not passed, and the committee discusses whether to allow the student to retake the exam and if so under what conditions. After these deliberations, the student is invited back in to hear the results.

There are specific rules for the preliminary exam, laid out by the Graduate School. **You must adhere to the schedules!** The preliminary oral exam must be scheduled during periods when classes are in session (including finals week). A three-hour block of time should be reserved (the minimum time for a preliminary exam is two hours according to Graduate School rules), but it is best to make sure the room is available for longer. **Reserving a room for the exam is part of your responsibility.** As you must allow plenty of time to coordinate a meeting time with your five committee members, start the process of setting a date and reserving a room at least 2 to 3 months in advance. If there are time conflicts with one or more of your committee members, you may petition for a replacement. As soon as the date and time have been chosen, notify the department and the graduate school. This **must** be at least **one week** in advance of the exam date. As noted above, the thesis **proposal must be provided to your committee at least one week in advance** of the examination.

- iii. **The Third Year Seminar:** Third year students in the Ph.D. program get an opportunity to present their research achievements and further research plans during this seminar. This will also give them a chance to answer questions from all members of the department concerning all aspects of their work. This is a great opportunity to do a “full-length” seminar talk to an audience of peers, with a suggested target of ~40 min for the actual presentation and leaving 15 min for questions and discussion.

The third year seminar will be scheduled by the faculty member in charge of the seminar program for any given year (“seminar chair”). During the quarter that a student presents, the student should register for the appropriate BB 607 section (see page 6). The seminar title should be submitted to the seminar chair and BB Office staff at least three weeks in advance of the seminar so that fliers can be prepared and distributed.

e. Requirements for the final defense

- i. **Thesis:** The thesis (or dissertation) is a detailed description of a student’s research in the department and “presented in partial fulfillment of the Ph.D. degree”. It is considered an official publication, thus it must be substantial, verifiable, defensible, and presented in a logical and understandable fashion. It is up to the student and the major advisor to determine (or “negotiate”) when each student is ready to write a final draft of the thesis. A good rule of thumb is that once a student becomes “the world expert” in a well-defined specific field, and is ready to tell the world (or at least others at OSU) that this is the case, this student is ready to defend a thesis. If there are disagreements about when a student is ready, this is a good time to consult with the BB Grad Advisor, and it is also appropriate to involve one’s graduate committee. We anticipate that the formal goal setting that is part

of the annual review process helps students and faculty mentors be aware early of concerns and differences of opinion and the committee and Grad Advisor can help with resolving these.

In many cases, the chapters in a thesis will be composed of papers that have been published or are submitted to journals. In cooperation with the major professor, it is determined what parts of these publications are to be included in a thesis. Ongoing work is often included in an Appendix. It is completely appropriate to present experimental approaches in more detail than for a typical scientific paper (the thesis is a repository of knowledge for the lab and for students who will follow). It is also appropriate to mention approaches that “did not work”, or results that would not even be supplemental data in a normal published paper.

The way a thesis looks is defined by the OSU Graduate School. It changes over time and students should consult the guidelines before starting writing; please see the [Online Thesis Guide](#). Students *MUST* follow these guidelines. The copy of the thesis that is submitted to the committee and the Graduate School prior to the final exam is called the “examination copy”. This is not a rough draft, but should be a complete, polished document, even though the committee may recommend changes. The idea is that only minor additions or changes should be necessary after the defense.

Students have six weeks after the final oral exam to incorporate required or suggested changes made by the committee and polish the thesis before submitting the final document to the Graduate School. Current requirements are:

- (1) one unsigned electronic copy to be deposited in the ScholarsArchive,
- (2) one signed electronic copy to be submitted to the Graduate School, as well as one signed hard copy of an ETD Thesis Submission Form along with the title page of the thesis. Nevertheless, always check the [Graduate School guidelines regarding thesis requirements](#) before you finalize your documents.

- ii. **The Defense Seminar:** This is the public part of the final exam or “thesis defense”, and consists of a one-hour seminar on all or part of the work that is contained in the thesis. This public presentation with a brief question and answer session typical for a normal seminar is followed by a closed-door private final oral exam with the student's committee members that can take between one to two hours. Seminars are usually given in ALS 4001 to a large audience, but the Final Exam is typically held in the BB conference room (ALS 2040).

Students MUST schedule the time and place of their final exam well in advance, as for the other two important committee meetings. This is one of the two meetings that must be scheduled with the Graduate School. Students must obtain permission from their major professor to schedule the seminar and defense, and again they must coordinate a block of time so

that all members of the committee can attend the seminar and participate in the final examination. ***Copies (ideally hard copies and electronic files, e.g., MS Word format) of the thesis MUST be submitted to the members of the committee at least two weeks prior to the seminar and the subsequent exam.***

As soon as the date is known, students need to work with and notify the the Graduate Program Coordinator, Kimberly Webster, in the BB Department office of the public defense time, place and the seminar title, so that fliers can be prepared and the whole Department can be notified in good time to add it to their calendar.

- iii. The Final Exam:** This is the private oral defense of a dissertation with only the members of the graduate committee. The committee must determine if the material that has been included in the thesis is sufficiently novel, relevant, descriptive of a substantial quantity of original research, and thus usually publishable. In this ultimate exam of graduate student careers students will be the experts, and will asked to defend or clarify aspects of their results, interpretations and conclusions, along with things like what the next logical experiments may be, what could have been done differently with the benefit of hindsight, and what the next steps in their career will be.

As during the Preliminary Exam, the first portion of this exam is chaired by the major professor. The second, deliberation phase of the exam for which the student is asked to step outside, is chaired by the Graduate Council Representative, whose major function is to assure that the student and all members of the committee are treated fairly, and that Graduate School guidelines and quality requirements are met.

f. Proposed timeline and required program milestones to degree completion

The following timeline serves as a guide through a graduate career. First, seek advice from your mentor and the Graduate Student Advisor. For details about general exceptions refer to the Graduate School Survival Guide or ask the Graduate School.

First Year

- Teaching
- Lab rotations
- Complete bulk of coursework Usually includes the Biochemistry (BB 590/591/592) and Biophysics (BB 581/582/583) series
- Participate in First Year Seminar (BB 607) and Department Seminar
- Select a major advisor (research lab)
- Select committee members

Second Year

- Fill out IDP and goals document
- Hold program committee meeting to plan last of coursework

- Help in running departmental picnic Fall Quarter
- Finish coursework (selected topics classes)
- Make great research progress

Third Year

- Fill out IDP and goals document
- Schedule, prepare for, and take Preliminary Exam by the end of fall term
This is a hard deadline! Must be scheduled with the Graduate School
- Arrange for and give Third Year Seminar
- Continue thesis research

Fourth and/or Fifth Year

- Fill out IDP and goals document
- Finish research and write thesis
- File thesis title approval form with the Graduate School the term prior to when you intend to defend
- File diploma application with the Graduate School prior to the term you intend to graduate
- Schedule room and time with departmental office for exam and file "Approval to Schedule Final Oral Examination" at a minimum of two weeks prior to the final oral examination
- Submit copies of thesis to committee members and graduate school two weeks in advance of the final exam date
- Take (and pass) Final Oral Exam
- Revise and Submit final thesis to Graduate School for approval

g. Committee membership

- i. **Graduate Council Representative:** A Graduate Council Representative (known as a GCR or Grad Rep) is required for all doctoral committees, all M.A.I.S. committees, and all master's degrees involving a thesis. Your GCR represents the OSU Graduate Council and ensures that all rules governing committee procedures are followed. Your GCR must be present at your formal exam(s), and will be responsible for some of the paperwork that the Graduate School requires. Per Graduate School guidelines, the GCR will also lead your committee's roundtable discussion following your final oral exam. Your GCR must be a graduate faculty member outside your major and minor area.

The GCR is a full voting member of your graduate committee. Many students select a GCRs who can also add disciplinary expertise. Select your GCR using the [online GCR list generation tool](#) and be sure to allow ample time for this selection process. If you run into difficulty finding a GCR to serve on your committee, you can re-generate the list until you find someone who is willing to serve.

- ii. **Policy on non-OSU committee membership:** Your [graduate committee](#) guides your course work and research and serves as your final examining committee. It is generally expected that all committee members or approved

substitutes must be present for all formal meetings with the student (e.g. final oral exams). If you have a special case in which a committee member may need to participate remotely, you and your committee must assure that all the conditions for remote participation are met.

If the faculty member is not a member of the [Graduate Faculty](#) or is not approved for the role proposed, your major department/program will need to nominate the proposed member to act in those roles using the [Nomination to Graduate Faculty form](#). Committee structure is evaluated when your program of study is received by the Graduate School and when you schedule your formal examination(s).

h. Selecting a graduate committee

Once accepted into a lab, graduate students need to assemble a [graduate committee](#) to help guide them through their graduate career. You should discuss your choices with your mentor. Doctoral student committees have five faculty members, including the major professor (who also serves as committee chair), two additional core or affiliated department members, one faculty member from another department interested in your research, and a Graduate Council Representative (GCR) chosen by the student from a [list provided by the Graduate School](#). This committee should be assembled and meet no later than during Fall term of Year 2.

The first meeting of each graduate committee is the “Program Meeting” and serves to introduce the student’s current and proposed research, and to plan the remaining coursework to be completed as part of the Ph.D. program. One hour should be allowed for this meeting, but it may be shorter. Effective meetings start with an ~20-minute presentation of student objectives and career goals, initial research progress, and proposed future research, followed by some discussion about these topics, and about which classes are most appropriate to achieve the proposed goals. ***The IDP with long term and short term goals provides a nice framework for the topics to be discussed and can be shared with the committee ahead of time or as a handout at the meeting.*** The program meeting is ***NOT an exam***, yet students should be well prepared and have rehearsed their short presentation with their mentor. It is advisable to prepare handouts for all committee members and perhaps supply a pdf file of the presentation as a record for committee members to help them be more involved with the research.

Gathering five faculty members in one place at one time for an hour is not trivial. ***Students should plan and schedule the meeting at least one month in advance and send reminder emails one week and one day before the planned meeting.*** They should reserve the BB conference room (ALS 2040) or another suitable venue for the meeting at least two weeks in advance (and notify committee members of the location).

Students should consult with their major professor about planned coursework and have the [Ph.D. program of study form](#) filled in with a tentative plan before the meeting.

It is the graduate student's responsibility to:

- obtain all necessary forms,
- fill them out properly (guided by the major professor), and
- submit the signed forms to the Graduate School.

Graduate committees will meet at least two more times. The second meeting will be for an oral preliminary examination, and the third, and last, will be for the private part of the thesis defense (or final oral exam). Committee members will get to know about the graduate student's scientific progress and potential through these meetings and the dissertation (or "thesis"). They will then be in a good position to write the critical letters of recommendation that a newly minted Ph.D. needs to advance to the next stage of their science career, in either academic or industry research or teaching. Needless to say, students should strive to be prepared and communicate (speak and listen) well during all meetings and remain on good terms with all committee members.

i. The role of the Graduate Student Advisor

The Graduate Student Advisor is a key contact for graduate students, both as a resource for information about the program and as someone to talk with about any of the various challenges that might come up during the program. Such challenges may be related to many things, including coursework, relationships with other students or faculty (including one's mentor, or "major professor"), graduate school or program requirements, and to one's personal life. Most troubles that arise can be best addressed when students consult early and often with the Graduate Student Advisor in addition to their own mentor, **so please reach out early when a challenge arises.**

j. Role of the major professor

The major professor will generally be the principal investigator of the laboratory that the student is accepted into following first year rotations. The major professor will guide the student's dissertation research and professional growth. The student is responsible for knowing and meeting the milestones identified in this handbook, and the major professor will play an active role in helping the student to successfully complete each milestone.

k. Process for identifying or changing major professor

Students will identify a major professor following the completion of the first year rotations. Please see section X for more information about the rotation process.

Students considering changing major professor should schedule a meeting with the Graduate Student Advisor. The student will then discuss the situation with their current major professor in a 1-on-1 meeting, to explore potential remedies for the situation or decide if changing major professor is the best solution. If the student is to change major professor, they should discuss the situation with the Graduate Student Advisor, their committee (if already formed), and potential new major professors. If the student is accepted into the lab of a new major professor, this change will be communicated to the committee and Graduate Student Advisor, and will be reflected in an updated Program of Study.

I. Process for filing program specific grievances and petitions

All students desiring to appeal matters relating to their graduate degree should consult with the Graduate Student Advisor (or other member of the Graduate Program Committee). The advisor/committee member will first attempt to act as an intermediary to resolve the grievance. If this is not successful, students should follow the Grievance Procedures for Graduate Students. These procedures are available at <https://gradschool.oregonstate.edu/progress/grievance-procedures> and are described in more detail below,

m. Deadlines related to Program of Study, Exam Paperwork, etc. Please read the [minimum deadlines](#) as defined by the Graduate School. Programs can require a more rigorous set of deadlines. Students are expected to check with their program and the Graduate School regarding specific deadlines unique to the term and academic year they plan to complete their degree requirements.

n. Process for measuring and communicating a review of satisfactory progress

All BB students are expected to have annual progress meetings with their major advisor after completion of their first year in the program (i.e. after they have chosen a mentor), and to provide the results to their committee and to the department. ***These meetings are scheduled by the student!*** Ideally, evaluations should occur before the initial Program Committee Meeting, the Preliminary (or Qualifying) Exam, and the final Thesis Defense. Annual Graduate Employee Evaluations are now also required by the university (see last page of this form).

The purpose of the BB Annual Progress Meetings for Graduate Students is twofold:

- 1. Monitoring academic progress (research and scholarship).** This addresses laboratory research projects, writing tasks (manuscript or proposal preparation), speaking engagements (scientific meetings, outreach), and teaching performance. Ideally the student should complete the progress report in consultation with the mentor. This helps to ensure that students and mentors are on the same page, and that students have feedback on how they are progressing and clarity about shared upcoming goals.
- 2. Updating and reviewing Individual Development Plans (IDP)** ensures that students are giving thought to their future goals and updating their IDPs as they gain experience, as well as considering how they are progressing, and what experiences and trainings will help them succeed. Also important is that mentors become aware of each student's individual development goals, as well as the program requirements. Mentors should work together with students to strategize on how to meet goals described in the IDP.

The student should update the form annually including setting goals in consultation with their major advisor. After the student and major advisor have agreed on the content of the form and the advisor has included comments in section F and completed the "Annual Graduate Employee Evaluation" portion of the form (on the last page), the student should share the completed form and evaluation with their committee members and invite feedback. If a graduate committee meeting is held

in association with the evaluation, section G should be filled out by the student and major advisor documenting any key outcomes of the meeting.

After the form is completed, a PDF copy must be provided to the BB office to be added to the Student's file.

o. Registration

The [OSU Schedule of Classes](#) is available online and contains academic regulations and registration procedures that apply to all students in the university, as well as the final examination week schedule. The online [catalog](#) is the source for up-to-date changes for the current and immediately upcoming term. It is your responsibility to register for the appropriate number of credits that may be required for any funding eligibility and/or to meet the requirements of the continuous enrollment policy. Problems arising from registration procedures, such as late registration, adding or withdrawing from courses after deadlines, or late changes from letter or S/U grading are resolved through the [petition for late change in registration](#) filed with the Graduate School. A late registration fee may be applied.

Students are responsible for staying current on registration requirements that may supersede the Graduate School requirements (i.e., international, financial aid, veteran's).

p. Departmental Seminars

The department sponsors a seminar (Wednesday, 4:00 pm, ALS 4001) every week of the regular school year. The schedule is on the [BB website](#). All graduate students are expected to attend these seminars along with their enrollment in the BB607 Department Seminar course.

The seminar speakers are experts in their field, who are invited from other institutions by faculty members or graduate students (e.g. the "Tsoo King Lecture" and the annual "Distinguished Alumni Speaker"). The remaining seminars consist of "third year talks" that are given by graduate students during their third year in the program.

Graduate students are expected to be able to ask questions at the end of seminars, especially if the speaker works in their area of research. In order to encourage networking, we typically sponsor a graduate student lunch with the seminar speaker; also, we have a reception (a coffee and cookie social gathering) outside the seminar room (ALS 4001) prior to most seminars. Students are strongly encouraged to take advantage of these opportunities to meet the speaker personally and potentially have the opportunity for more in-depth conversation.

q. Minimum Course Loads

Course load requirements for graduate students are established by the Registrar and the Graduate School. You are considered a "full-time" graduate student if you are registered for 9–16 credits in a given academic term. You are considered a "part-time" graduate student if you have less than nine credits. If you are a degree-seeking student, you must be registered for a minimum of three graduate credits

in any term you wish to be enrolled and access university resources, including the term of the final defense.

Students are responsible for staying current on course load requirements that may supersede the Graduate School requirements (i.e., international, financial aid, veteran's)

r. **Continuous Graduate Enrollment**

All graduate students enrolled in a degree program must register continuously for a minimum of 3 graduate credits each term (fall, winter, and spring terms) until all degree requirements are met, regardless of student's location. Students on approved leave are exempt from the continuous enrollment policy for the term(s) they are on leave.

Graduate students who use facilities or faculty/staff time during summer session are required to register for a minimum of 3 credits during the summer session. Students defending in the summer term are required to register for a minimum of 3 graduate credits.

Students may appeal the provisions of the continuous graduate enrollment policy if extraordinary circumstances arise by submitting a detailed request in writing to the Dean of the Graduate School. Scheduling difficulties related to the preliminary oral exam or the final oral exam are not considered an extraordinary circumstance.

Graduate assistantship eligibility requires enrollment levels that supersede those contained in this continuous enrollment policy. Various agencies and offices maintain their own registration requirements that also may exceed those specified by this continuous enrollment policy (e.g., those of the Veterans Administration, Immigration and Naturalization Service for international students, and those required for federal financial aid programs.) Therefore, it is the student's responsibility to register for the appropriate number of credits that may be required for funding eligibility and/or compliance as outlined by specific agency regulations under which they are governed.

NOTE: Students who are pursuing a certificate only are not subject to the continuous enrollment policy.

s. **Leave of Absence**

Leave of Absence status is available to eligible students who need to suspend their program of study for good cause. The time the student spends on approved leave will be included in any time limits prescribed by the university relevant to degree completion. Students on approved leave may not a) use any university facilities, b) make demands upon faculty time, c) receive a fellowship or financial aid, or d) take course work of any kind at Oregon State University. [Leave of Absence/Intent to Resume Graduate Study Forms](#) must be received by the Graduate School at least 15 working days prior to the first day of the term involved. Family Medical Leave (FML) may be granted at any point during a term. FML inquiries should be directed to medical.leave@oregonstate.edu. **NOTE:** Students who are pursuing a certificate only are not subject to the Leave of Absence Policy.

t. Unauthorized Break in Registration

Degree seeking graduate students who take an unauthorized break in registration relinquish graduate standing at the University.

To have graduate standing reinstated after an unauthorized break, students are required to reapply to their program (complete the online graduate admission application, pay the application fee, and may be required to register for three graduate credits for each term of unauthorized break in registration). It is advisable that students in this situation state that they are applying for readmission in the application packet. A reapplication does not ensure admittance to the program.

u. Grievance Procedures

All students desiring to appeal matters relating to their graduate degree should follow the Grievance Procedures for Graduate Students. These procedures are available at <https://gradschool.oregonstate.edu/progress/grievance-procedures>. Graduate assistants, whose terms and conditions of employment are prescribed by the [collective bargaining agreement](#) between OSU and the Coalition of Graduate Employees, American Federation of Teachers Local 6069, should also refer to that document and seek guidance from OSU's Office of Human Resources.

v. [Grade Requirements](#) and Program of Study

A grade-point average of 3.00 is required: 1) for all courses taken as a degree-seeking graduate student, and 2) for courses included in the graduate degree or graduate certificate program of study. Grades below C (2.00) cannot be used on a graduate program of study. A grade-point average of 3.00 is required before the final oral or written exam may be undertaken. Enforced graduate-level prerequisite courses must be completed with a minimum grade of C. Programs may have more stringent grade requirements than those prescribed by the Graduate School.

w. Incomplete Grades

An "I" (incomplete) grade is granted only at the discretion of the instructor. The [incomplete](#) that is filed by the instructor at the end of the term must include an alternate/default grade to which the incomplete grade defaults at the end of the specified time period. The time allocated to complete the required tasks for the course may be extended by petition to the University Academic Requirements Committee. You can obtain the form from the Registrar's Office. It is the student's responsibility to see that "I" grades are removed within the allotted time.

x. Student Conduct and Community Standards

Graduate students enrolled at Oregon State University are expected to conform to basic regulations and policies developed to govern the behavior of students as members of the university community. The Office of Student Conduct and Community Standards (SCCS) is the central coordinating office for student conduct-related matters at Oregon State University.

Choosing to join the Oregon State University community obligates each member to a code of responsible behavior which is outlined in the [Student Conduct Code](#).

The assumption upon which this Code is based is that all persons must treat one another with dignity and respect in order for scholarship to thrive.

Violations of the regulations subject a student to appropriate disciplinary action.

y. Academic Dishonesty

Academic Dishonesty is defined as an act of deception in which a student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another. It includes:

- **CHEATING** — use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
- **FABRICATION** — falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
- **ASSISTING** — helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
- **TAMPERING** — altering or interfering with evaluation instruments or documents
- **PLAGIARISM** — representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

z. [Office of Equal Opportunity and Access](#)

The OSU Office of Equal Opportunity and Access defines sexual harassment as the following:

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

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education;
- Submission to or reject of such conduct by an individual is used as the basis for employment of education –related decisions affecting such an individual; or
- Such conduct is sufficiently severe or pervasive that it has the effect, intended or unintended, of unreasonably interfering with an individual's work or academic performance because it has created an intimidating, hostile, or offensive environment and would have such an effect on a reasonable person of that individual's status.

**Employee conduct directed towards a student – whether unwelcome or welcome – can constitute sexual harassment under OAR.*

There are two confidential resources to discuss reporting options: Center Against Rape and Domestic Violence (CARDV) provides 24/7 confidential crisis response at 541-754-0110 or 800-927-0197, and OSU Sexual Assault Support Services is available weekdays at 541-737-7604.

aa. Student Records

Both federal and state laws permit Oregon State University staff to release directory information (e.g. name, address, degree program, birth date) to the general public without your consent. You can prohibit the release of directory information to the public by signing the Confidentiality Restriction form available from the Registrar's Office. It will not prohibit the release of directory information to entities of Oregon State University that have a "need to know" to accomplish their required tasks. It further will not prohibit Oregon State University departments from including your name on mailing lists for distribution of materials that are essential to your enrollment at Oregon State University.

4. Rotations

a. Expectations and responsibilities

The purpose of laboratory rotations is two-fold. First, they expose students to a range of research topics and research environments available in the program. Second, the rotations are the process by which students select a faculty mentor, i.e., someone with whom they want to work, and someone who will accept them into their research group. The core and affiliated faculty represent a diverse group, with research interests ranging from cell biology to molecular biophysics. Upon entering graduate school, many students will not have been exposed to a large variety of potential research topics and thus may not really know what is interesting to them and what is not, or which projects are reasonable for thesis research and which are not. Students typically complete three half term-long rotations in their first two terms at OSU. All three rotations should be set up at the beginning of Fall term ([BB website internal for Graduate Students and forms](#)) and discussed with the Graduate Student Advisor. It is perfectly fine to make changes as the year

progresses, but these changes need to be communicated to the Graduate Student Advisor.

Faculty members all have their own personality and run their laboratories in their own ways. Labs may be larger or smaller, and may have a variety of mixes of graduate students, postdoctoral associates, technicians, and undergraduate students doing research. The mentoring professor may be intimately involved in all aspects of research and may actually work in the laboratory, or may not spend much time in the lab; some may give students highly defined projects, and others may give students more leeway in developing a project. Each student needs to find out what style works well for them. Lab rotations allow students to "try out" laboratories and, similarly, allows labs to evaluate prospective students. One important component of finding a mentor and lab for thesis research is how well students mesh with the people in the lab.

Communication, communication, communication! The most successful lab rotations occur when students maintain good communication with the professor. Students need to find out what they are expected to accomplish during the rotation, and by what standards their performance will be evaluated. This topic should be discussed with the professor even though rotation students are often directly supervised by a postdoctoral associate or a senior graduate student. In these situations, it is in the student's best interest to clarify the chain of communication and responsibility. This initial understanding should be revised as the rotation progresses, since research projects often take unforeseen turns. During a rotation, students should also try to learn as much about all the ongoing research projects from other members of the group. This generally requires communication with all members of the research group, as well as attendance of all group meetings or journal clubs held by the laboratory.

At the end of a student rotation, professors are required to complete a form evaluating the student's performance (a copy of the evaluation form can be found [here](#)). This evaluation is discussed with the student and the form signed by the professor and the student. Evaluations become part of the student's record and are considered during the general evaluation of each student at the end of their first year in the program.

- b. Preparing for rotations.** In preparation for working in laboratories, all first year graduate students will be required to complete lab safety and other training courses during the first 5 weeks of the Fall term.
- c. Rotations and joining a lab.** First year graduate students will complete three 5-week rotations (one in the Fall term, and two in the Winter term) in different laboratories. The first rotation begins the 6th week of the Fall term. If a student does not identify a dissertation laboratory after three rotations, they will complete a 4th rotation in the Spring term.

The offer of a rotation is not an obligation of a PI to ultimately accept that student in their lab. Students who identify a potential dissertation lab after the first three rotations should communicate their interest to the PI of the lab by the end of the

Winter term. If there is mutual interest, the student should inform the Graduate Program chair, and begin their dissertation research with the PI in the Spring term.

- d. **Rotation evaluation.** At the end of each rotation period, students will present the background and findings of the rotation in an oral presentation to the BB community. The faculty mentor is required to complete a form evaluating the student's performance (a copy of the evaluation form can be found as Appendix 2 at the end of this Handbook and on [the Department website](#)). This evaluation is discussed with the student and the form signed by the faculty mentor and the student. Evaluations become part of the student's record and are considered during the general evaluation of each student at the end of their first year in the program.

5. Teaching Assistantships

a. Teaching responsibilities

Regardless of the source of monies that fund their time in the graduate program, all doctoral students in the department have teaching responsibilities, as teaching is considered a part of graduate training. Most students will be Teaching Assistants (TAs) during their first year. In some instances, teaching responsibilities may be delayed until later (e.g. if a student arrives with a fellowship or their own support, or wins a prestigious OSU Provost Distinguished Graduate Fellowship). Finally, depending on how a student's graduate education is funded after the first year, a student may be assigned additional teaching responsibilities in lieu of Research Assistant (RA) support.

Teaching is an exceptional learning opportunity, and should not be considered a "necessary evil". To properly teach any course, one needs to know substantially more about a topic than the students one educates. Thus, often a TA will learn more through teaching a course than they had learned from taking the same class! Students with a career interest in teaching often seek to volunteer for additional teaching, although such opportunities are not guaranteed. Also, once a student has joined a research group, the mentoring professor becomes their supervisor and so all work related activities (such as additional teaching) must be discussed with the mentoring professor *BEFORE* they are pursued.

At the end of each TA assignment, the instructor of the course being TAed is required to complete a form evaluating the student's performance. A copy of the evaluation form can be found as Appendix 3 at the end of the handbook and on [the department website](#). Evaluations are discussed with the student, and signed by the professor and the student. Like the rotation evaluations, TA evaluations become part of the student's record and are considered for the general evaluation after the first year. In addition, each TA will receive feedback from students taking the class in the form of standardized "electronic Student Evaluation of Teaching" (eSET) surveys.

Teaching duties for each term are assigned by the Department Head. Students are informed of their assignments and encouraged to contact the class instructor early to learn about responsibilities and expectations.

Teaching falls into two categories, lecture courses and laboratory courses. As a TA, you have responsibilities that are general for all courses and that are specific to certain courses.

b. Graduate students assisting in teaching (TAs) are required to:

- i. **Meet with the instructor(s) responsible for teaching the class.** This should be done at least one week prior to the start of the term. If TAs plan to be out of town until the start of the term, they should contact the instructor(s), ideally prior to leaving.
- ii. **Obtain a syllabus for the course.** This outlines the basic information concerning the course (instructors, text used, chapters covered, exam dates, etc.).
- iii. **Obtain an outline of subjects and material to be covered in the course.** Most of this should be in the syllabus. In some cases, the instructor will have a specific set of class notes, but not always. If a course is taught by more than one instructor, TAs need to find out what topics each instructor will cover.
- iv. **Become familiar with the grading protocol and standards.** How will the course be graded (exams, quizzes, problem sets, lab reports, lab notebooks, etc.)? Will deliverables be graded on a B average or C average? Will grades be strictly from the total points each student earns, or will it be curved? These are questions that the students who take the class will ask the TAs.
- v. **Obtain instructions for how to instruct students in a specific class.** What is a TAs part in instructing? What are the responsibilities of the TAs (e.g. recitations, office hours, proctoring exams, grading, etc.)?
- vi. **Set office hours and location.** In most classes, TAs are the first contacts for helping students on a one-on-one basis. TAs need to set office hours and **BE PRESENT DURING THE TIME AND AT THE PLACE INDICATED.** Typically, these times are added to the syllabus or class information that the instructors make available to students on the Canvas web pages for the class. TAs need to make sure the enrolled students get this information. Most instructors require at least two hours per week of office hours from TAs. If a TA cannot be available for office hours they must let the instructor know and make suitable arrangements per the instructor's direction.
- vii. **Know the material.** This cannot be stressed enough. One cannot teach unless one is more knowledgeable than the students. For this, TAs also need to know how instructors are presenting the material, and what they think is important for students to know. If TAs do not understand the material or how the instructor is presenting the material, it is useful to sit in on lectures to know what is covered and develop a sense of the instructor's teaching style.
- viii. **FERPA training.** Also, all TAs must have completed OSU's [FERPA training](#) so as to know how to handle confidentiality with regard to student

information. FERPA training must be completed in order to be added as a TA to a course's Canvas site.

c. Teaching in a lecture course

When assigned to a lecture course, TAs will primarily be responsible for helping students during recitations and office hours with their problems, as well as grading and proctoring exams. TAs need to:

- i. **Be prepared to participate in the grading.** TAs need to know when all the exams are given AND communicate with the instructor as to when to meet to start grading, when grading must be completed, and who grades what parts of the exam.
- ii. **Prepare and present material in the subject outline during recitation.** Each instructor has ideas as to how recitation should be run. TAs should abide by their preferences. Sometimes there will be problem sets to review during recitation. TAs should get these in advance and complete them on their own. If there are any questions about answers or how the problem is to be solved, TAs must ask the instructor for assistance.
- iii. **Be aware of grading policies.** Paying attention to detail while grading is very important to maximize the accuracy of grading. Corrections to grading (due to errors or perceived errors) are the final responsibility of the instructor.
- iv. **Communicate any time conflicts with the instructor!** This is important in terms for proctoring, grading exams, and assigning recitation sections.

d. Teaching in a laboratory course

When teaching in a laboratory course, TAs have a different set of responsibilities. As laboratory classes (BB 315/493/494) are taught by different instructors each term, the responsibilities of the TAs vary from term to term. Thus, the first responsibility is to contact the instructor to clarify expectations and obligations of TAs. This is also a good time to decide how much "teaching" TAs are expected to do in working with the students who are registered for the course. If multiple TAs are involved, the instructor will be clear about shared and individual responsibilities so that the needs of the class are met, and the responsibilities are EQUALLY shared. In general, TAs in the teaching lab courses are required to:

- i. **Obtain a key to the teaching lab (ALS 0023).**
- ii. **Prepare reagents and equipment in a timely manner** for experiments assigned for the course. TAs need to keep a brief written record of reagent preparation in a permanent notebook.
- iii. **Stock reagents and supplies** (Kimwipes, Parafilm, pipet tips, etc.) that are used in the day-to-day functioning of the lab. This may also require placing orders for supplies and chemicals, and the instructors can help with this as needed. TAs maintain a supply of purified water. All of this must be done LONG BEFORE the lab runs out of these supplies. If there are not enough

materials for the students to perform assigned experiments, then TAs failed in their jobs.

- iv. **Maintain equipment and supplies** so that subsequent users will find these materials, and find them in working order. TAs are not expected to, and should not, repair broken equipment, but should notify the current instructor when repairs are needed.
- v. **Be aware of safety.** This is everyone's concern (the instructor, the TAs and the students). This includes environmental as well as personal safety.
- vi. **Clean the laboratory at the end of the term**, including the proper disposal of unnecessary reagents and student samples, and storage of equipment no longer in use. TAs properly dispose of all broken glassware and leave the lab in good working condition for the next term.

6. Other General Questions and Responsibilities

a. Balancing Coursework and Research

Success in graduate school is not achieved by focusing on any single area. It is very important to succeed in all of the main areas of responsibility. Thus, a student must allow enough time for studying to be able to earn A or B grades in courses (to remain in good standing with a 3.0 GPA, and no more than one B- in the core classes), while also meeting teaching and research assistantship responsibilities.

b. Transition From Classroom to Research

The relative importance of coursework drops off rapidly once the required courses listed in the graduate program have been completed. The student will be evaluated no longer by the performance on quizzes or exams but by performance on individual research projects, where standards of evaluation are often not spelled out clearly, but the final tangible product is a peer-reviewed publication in a widely read scientific journal. As students become more engaged in research, taking additional courses may not advance their research career. Nevertheless, students may want to take advanced courses that are relevant to specialized research areas of future interest, even though they may not be included in the formal, agreed upon program. One option is to take such classes as "P/N", or to audit them. These decisions should be made only after consulting with the major professor. If students wish to audit a class they also should seek permission from the instructor.

c. Transition From Research Credits to Thesis Credits

During first year lab rotations, students register for at least three, but typically nine research credits (BB 501/601) in order to make each term total 16 credits. ***From the second year on, students should adjust their thesis credits (BB 503/603) each term during the regular school year so that they total 16 credits per term. Students on stipends typically register for five credits during the summer including thesis credits (BB 503/603).***

d. Discussion of Departmental Service Activities

Part of being a member of the department (and the scientific community) is giving back in terms of service, to enhance the quality of the department, OSU, and the community at large. Some service activities available to students include:

- 1) participating in BB Graduate Student Association and department committees
- 2) hosting of the annual BB departmental picnic at the beginning of each school year (typically organized by second year students);
- 3) hosting of graduate student-invited seminar speakers;
- 4) hosting and recruiting of visiting prospective graduate students;
- 5) organizing and running various journal clubs;
- 6) involvement in the OSU graduate student union and also in other college-wide or campus wide activities/initiatives;
- 7) joining professional societies and serving on committees in those societies.

7. Life after OSU

a. Search for Post-Doc Positions During The Last Year

It is the student's responsibility to arrange for the next stage of their career, and ideally this process starts in earnest at least nine months before the defense so that a plan is in hand. The discussions that occurred at least annually with regard to IDPs and annual reviews should mean that this topic has been given adequate attention. The major professor will provide valuable advice with this task, and ideally has already encouraged students throughout their time in the department to network with a large base of colleagues. In addition, major professors often learn of post-doctoral positions by word of mouth or through professional society websites or emails. The Graduate Student Advisor will also be clued in to many post-doctoral opportunities, so contact them with questions.

Another resource students can use is to subscribe to appropriate email bulletin boards where position announcements are posted (e.g. through the journal *Science* via the AAAS or other scientific societies). Another effective approach is to find the appropriate post-doctoral fellowship agencies, and contact professors of interest directly and get them to agree to help write an independent fellowship proposal that will sponsor research in the professor's lab. A best-case scenario for new post-doctoral fellows is to bring their own funding upon arrival at the new lab. Many professors are agreeable to take a post-doc for one year with the understanding that such independent applications must be written. All this must be planned well ahead of the actual date of receiving a Ph.D., at least nine months in advance of the targeted date of program completion, because the review cycles for all funding agencies run about six to nine months.

b. Search for Industry Positions During The Last Year

If a student's career goals include an industry position, they can consult the GEN Guide to Biotechnology Companies for an idea of what companies are around.

There are several approaches to getting a position at a particular company. Perhaps the best way is to determine whether any OSU faculty members or their colleagues or BB alumni have contacts at any of the companies that students are interested in. Another is to send resumes out to employment agencies in the field of “biotechnology”. These agencies are in the business of finding potential employees with specific expertise to fill a position. Another way is to use the personnel placement sections of journals such as *Science* and *Chemical and Engineering News*. Finally, many companies operate their own postdoctoral training programs (e.g. Genentech). Students should contact a specific company to inquire about this possibility, but again it is most helpful to find a specific contact. Many companies have policies that prohibit the use of postdoctoral positions to fill permanent vacancies.