This handbook is meant to provide PMB Graduate Faculty with a guide to the expectations of a faculty member in the Plant and Microbial Biology graduate program and as a resource to effective advising and serving on student advisory committees. This handbook is one of three handbooks maintained by the Graduate Program; the other two are the Graduate Student Handbook and the PMB Program Governance Handbook.

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Revised October 2018 by Sara Eliason, Peter Kennedy, Robert Stupar, and Peter Tiffin.
Plant and Microbial Biology program overview

The Plant and Microbial Biology (PMB) Graduate Program strives to provide outstanding interdisciplinary education for careers in academia, industry, government, and public service. The program is committed to diversity in both scientific pursuits and in the community of people conducting that science.

The graduate program works to recruit students from diverse backgrounds and to provide those students with:

- excellent interdisciplinary educational, research, and professional development experiences;
- possibilities to work on a broad range of cutting-edge research topics in plant, fungal, and microbial biology;
- opportunities to conduct independent research and develop as innovative educators; and
- opportunities to participate in the international plant science research community through seminars, colloquia, and conferences.

The PMB program expects students to develop the conceptual understanding, analytical skills, and technical knowledge that allow them to make important contributions to our understanding of biology and that lay the foundation for professional success.

PMB graduate faculty obligations

Members of the PMB Graduate Program Faculty represent a broad array of administrative units within the University, primarily the College of Biological Sciences and the College of Food, Agricultural and Natural Resource Sciences. While not every faculty member will necessarily participate in every one of these activities, each member is expected to be involved in several areas:

- Serve as academic advisor for PMB students.
- Serve on graduate committees of students in the program, including evaluation of written and oral preliminary examinations, student research reviews, and final oral examinations.
- Teach graduate courses.
- Serve in recruitment activities, including recruiting students, interviewing prospective students, and attending recruiting visit events.
- Serve on program committees (e.g., steering, admissions, awards).
- Attend and help organize program seminars, including student seminars.
- Attend faculty meetings, including the fall semester meeting and annual retreat.

SEE ALSO: University policy: Mutual Roles and Responsibilities for Faculty and Graduate Students (https://policy.umn.edu/education/doctoralperformance-appd).

NOTE: The PMB Steering Committee may periodically review faculty participation. Appointments of faculty who do not contribute to the program over a period of two years may, at the discretion of the Steering Committee, be asked to renew their commitment to participate in some capacity or withdraw from the program.
Key people and program resources

**ACADEMIC PROCESS, RESOURCES, SUPPORT, FUNDING, ETC.**

Dr. Bob Stupar  
Director of Graduate Studies (DGS)  
stup0004@umn.edu  |  612.625.5769

Dr. Peter Kennedy  
Associate Director of Graduate Studies (ADGS)  
kennedyp@umn.edu  |  612.624.8519

Sara Eliason  
Graduate Program Coordinator (GPC)  
140 Gortner  
seliason@umn.edu  |  612.625.4222

**PHYTOGRADS – PMB GRADUATE STUDENT ORGANIZATION**

Jaclyn Noshay  
Ph.D. student and Phytograds president  
nosha003@umn.edu

**HUMAN RESOURCES OFFICE—IN SNYDER HALL**

Kelsey Cook  
Graduate assistant appointments  
cookx632@umn.edu
Advising

The PMB program invests significant resources in every student who is admitted and students devote substantial time pursuing their educational goals. Positive advising and mentoring of graduate students fosters mutually beneficial relationships, leading to success for individual students and advisors, and enhancing the reputation of the program and the University. Only a collective effort by the PMB graduate faculty can provide exemplary advising and mentoring. The program aims to provide an excellent education and environment for professional development, while avoiding graduate student attrition, promoting a higher rate of Ph.D. completion, and conserving limited resources. Effective advising is central to the achievement of these goals.

The University of Minnesota Graduate School has valuable resources for productive and successful advising. These are online at http://gradadvising.umn.edu/, under the section on Graduate and Professional Student Advising: Building an institutional culture of graduate student advising excellence. All PMB graduate program faculty members are strongly encouraged to consult these resources; it does not take long to read them.

PMB graduate faculty advisors are expected to establish coursework and research plans with their students and follow the guidelines for best advising practices. PMB graduate faculty also are encouraged to file a summary of their expectations and advising philosophy with the PMB graduate program office (through the graduate program coordinator). Faculty should revisit this document annually to ensure that the expectations match current conditions of lab research, funding, and program requirements.

Documents to help advisors with these steps are provided as appendices to this handbook:
- PMB student semester-by-semester checklist (Appendix A).
- Graduate student advising statement (Appendices B & C).
- Guidelines for successful mentoring (Appendix D).
- Best advising practices for graduate student success (Appendix E).

Also refer to the PMB Graduate Student Handbook for step-by-step details on academic process (i.e., registration, program requirements, registration, advisory committees, preliminary exams, final exams) and resources available to University of Minnesota students.

Although the relationship of advisor and student is different from that of employer and employee, resources provided by the University Office of Human Resources also provide helpful guidelines: https://humanresources.umn.edu/supervisor-resources.

The primary role of PMB graduate program faculty is to support PMB graduate students. Students are best served when advisors provide authentic evaluations that aim for reasonable goals and recognize achievement. Guidelines for conducting evaluation meetings are online at http://www1.umn.edu/ohr/toolkit/performance/reviews/meeting/index.html.

SEE ALSO: University policy: Mutual Roles and Responsibilities for Faculty and Graduate Students (https://policy.umn.edu/education/doctormalperformance-appd).
ADVISORY COMMITTEE MEMBERSHIP
An important role of PMB faculty is to serve on students’ advisory committees. Participation on these committees comes with the responsibilities of providing advice for student’s education, research, and professional development, evaluating student performance in the written and oral preliminary examinations, and evaluating the student’s dissertation (or thesis for M.S. students). During preliminary examinations, committee members are allowed to ask students questions about any material that they think is relevant to a student’s research, professional success, or is relevant to earning a Ph.D. in PMB.

If a student’s performance during preliminary examination causes concern about the potential for a student to succeed, then it is important that committee members raise those concerns and that the committee consider whether the student should continue on in the program; sometimes students, their advisors, and the PMB program, are served better by a student not passing a preliminary exam. It might be that earning a Ph.D. is not the right path for some students, despite their abilities and academic record, and that they might be happier and have greater professional success taking a different path. It also is possible that getting an M.S. degree is a valuable first step, one to be achieved before the student continues on to earn a Ph.D. either in the PMB program or in a different program better suited to the student’s interests.

FOSTERING RESEARCH SKILL DEVELOPMENT
A primary aim of the PMB graduate program is to foster research skill development among all PMB graduate students. One way in which research skill development is done is through rotations. The PMB program supports laboratory rotations for students who think they will benefit from spending time in a lab outside of their home lab or who have not yet identified an advisor. The nature of a rotation activity can vary widely among students and faculty; some rotations focus on reading the scientific literature or learning techniques, while others aim to accomplish particular experiments or analyses.

Most students have identified an advisor before joining the program or soon after joining the program. These students might not participate in rotations but are asked to actively participate in one or more faculty member’s lab/group meetings, participate in a formal journal club, or another activity approved by the DGS. Faculty members are asked to welcome and foster such students.

Regardless of the nature of the research skill development activity (rotations or other options), it is expected that the student be engaged in regularly scheduled activities and to discuss progress and problems with you as hosting faculty. Faculty hosting students will be asked to evaluate their performance at the end of the semester in which the student conducted the activity. The program urges faculty mentors and students to put in writing, at the beginning of the semester, what each expects from the experience, the time commitment, and the basis for evaluation.
Graduate student funding

STUDENT EMPLOYMENT RIGHTS AND RESPONSIBILITIES
The PMB Graduate Program is committed to supporting students both academically and financially and ensuring that student rights and responsibilities in their roles as graduate students and graduate assistant employees are recognized and maintained.

See page 37 in the PMB Graduate Student Handbook for full details on student rights and responsibilities.

SEE ALSO: > the University policy: Mutual Roles and Responsibilities for Faculty and Graduate Students (https://policy.umn.edu/education/doctreralperformance-appd), and
> the graduate student employment policy for details about compensation, tuition benefits, performance evaluation, leaves of absence, parental leave, safety, conflict resolution, etc.: (https://policy.umn.edu/hr/gradstudentemployment).

GRADUATE ASSISTANTSHIPS
Graduate students are supported most often through teaching assistantships, research assistantships, and fellowships. The duration, duties, and details of each appointment vary, but most are 50% effort—they require an average of 20 hours of work per week over the term of the appointment. Assistantships and fellowships generally include a stipend, tuition benefit, and health insurance coverage.

Teaching assistantships
Teaching assistantships involve assisting the primary instructors with course preparation, leading lab sessions, giving lectures, grading assignments and exams, holding office hours, and other tasks related to the course. Teaching assistant (TA) obligations usually begin before the first day of class, and TAs must be available for meetings with instructors before the start of the semester. TAs must be on campus throughout the entire semester of their teaching assignment.

• All PMB doctoral students must serve as a TA for one semester.
• Beyond this core requirement, the PMB graduate program typically honors all requests for TA positions from students in good standing.
• The GPC will ask all PMB students for TA position requests, this is usually done several months before the start of the semester.
• Students who need to fulfill the program’s TA requirement may have higher priority for placement than other students.
• TA requests from students in their sixth year of study and beyond will receive lower priority than students who have not been in the program as long.

Research assistantships
Research assistantships (RA) are generally associated with grants. Students and advisors should discuss the expectations, duties, and expected time commitment before the RA begins. These duties and expectations should be recorded in writing, so that they are clearly defined prior to the beginning of the RA.
FELLOWSHIPS
Students are encouraged to apply for fellowships and grants. The UMN Graduate School maintains information about some, but certainly not all, fellowships available to graduate students: https://www.grad.umn.edu/funding-tuition/fellowshipsandgrants.

PMB summer fellowship
The PMB program aims to provide each PMB student summer support, in the form of a PMB summer fellowship, for at least two summers. The expectation is that the other two to three summers (depending on a student’s progress) will be covered through fellowships (other than the PMB Summer Fellowship) or research assistantships.

The two summers of support from the PMB program are provided as long as a student is in good standing. Students do not need to apply for the summer fellowship, but will be asked to notify the GPC of their intent to use their PMB Summer Fellowship.

Some years financial constraints might limit the ability to provide summer funding; during these years the DGS will talk with students’ advisors to arrange funding.

Summer funding, or the uncertainty over receiving summer funding, is a source of stress for many students. For this reason, at the time that a faculty member agrees to serve as an advisor, the student and advisor should develop a plan for summer funding throughout the student’s time in the program. For example, a student and advisor might agree that the student is expected to apply for fellowships every summer (there are many of these within and outside of the university). If the student does not receive any of these fellowships, the advisor will support them with an in-hand grant during summer 1, during summers 2 and 3 the student will use their PMB summer fellowship program funding, and during the 4th summer (and 5th summer if necessary) the advisor will provide support. An advisor also might say that they are not able to commit to more than a total of three summers of funding (i.e., after the student’s 5th summer).

Some students may not need PMB summer support, either because they are very successful at being awarded summer fellowships or an advisor has funds available to support that student for all the summers that they are in the program. The program will give summer-fellowship-credit to the advisors of these students. For example, if a student who earns a Ph.D. has relied on only one summer of PMB summer fellowship support, then the advisor can use the one summer of credited support for another PMB student in their lab, even if that other student has already received two years of PMB summer fellowship.

There will be situations when advisors have no money to support students. (This is different than advisors not wanting to spend money to support a student.) If an advisor finds themselves in the situation of wanting to recruit a student, but not having funding for summer support, then the advisor should contact the DGS, as early as possible, to arrange for funding. It is expected that the program will make every effort to assure students are supported for five summers. However, the program (DGS and Steering Committee) may decide to not admit students to the program if those students intend to work with advisors who consistently rely on the program to provide summer support for their students.
Application process (for students who have not yet received two summer fellowships)

> The GPC will circulate a call for summer fellowship requests in early April.
> Students must have completed their most recent annual committee evaluation and submitted a current CV to the program.
> Student will need to provide a list of other sources of summer funding and an outline of their summer research goals, a plan for achieving those goals, how their summer work will contribute to their degree progress, and their expected time to graduation.
> The PMB Awards Committee will review applications and make funding recommendations.
> The DGS will make final funding decisions.

In some years the program may have extra funds to support competitive summer fellowships. These fellowships will be available only to students who have already been supported by the program for two years. The program will notify students when these fellowships are available. To apply, a student will need to provide the same information that they provide when they are asking to use their PMB summer fellowship (above). In addition, the student should explain how they have been supported in past summers, how they expect to be supported in future summers, and what fellowships they have applied for and received. The student’s advisor also must submit a letter that explains what other funds are available for supporting the student, the expectations for how the student will be supported in the future, and the expected timeline for the student to complete their dissertation. The advisor will be asked to submit the letter directly to the GPC.

During the years when competitive summer fellowships are available, partial or full funding will be provided to students selected by the Awards Committee and the DGS, on the basis of the following criteria:

- Making satisfactory progress towards their degree, as indicated in the annual evaluation due on March 31.
- Demonstrated excellence in research.
- Accomplishments that are notable for a student at that stage in their education (e.g., publications, research grants, fellowships).
- Advisor has a solid record of providing summer funding for their advisees.
- Priority is given to applicants who have not previously received competitive summer fellowships and for students who have not yet entered their sixth year.
- Students who are not in good standing will be ineligible for PMB summer support (they may be supported by an RA), even if they have not previously received summer support. (See the PMB Graduate Student Handbook for details on the basis for good standing in graduate school.)

PMB summer fellowships will be processed in June in the form of a one-time scholarship. For U.S. citizens, no taxes are withheld from these awards—although it is quite possible that students will owe taxes on these awards. Students who are not U.S. citizens will pay taxes on this money at the time of the award.
CAREER DEVELOPMENT FUND
The PMB program provides students with a career development fund when they join the program. They may use this money for professional development opportunities and for travel to professional conferences, to workshops, to courses, or for other activities related to learning and presenting research. This money may not be used for direct support of research projects, including travel to field sites.

To use career development funding:
> Students should send an email to the GPC with a brief proposal and justification for their plans. Include details on the costs (travel, lodging, registration, etc.).
> The DGS and GPC will review the plans and check the student’s career development fund balance.
> Students should register to participate and book travel only after getting approval for their travel and verification of their funding balance from the program.
> Students must submit all expense reimbursement requests to the GPC for processing.

NOTE: We encourage students to apply for outside travel grants, to supplement their career development fund. Further, they should plan to use any outside travel grants they receive before drawing on their career development fund.

SUPPLEMENTAL TRAVEL GRANTS/FUNDING
During some years the PMB program may have additional funds to support travel and training, beyond what is available to students through their career development funds. In these years, a call will go out to all students, and the DGS, ADGS, and GPC will decide how to distribute the funds, in consultation with the Awards Committee.
Harassment and discrimination

PMB graduate faculty must abide by University and programmatic policy, including policies on sexual and other harassment and discrimination. Violations of these policies will not be tolerated. PMB graduate faculty members who are found by the University of Minnesota Office for Equal Opportunity and Affirmative Action (EOAA) to have violated these policies, or found to have subjected others to harassment in any aspect of the program (including the laboratory, classroom, off-campus UMN-related trips, or to any member of the University Committee while on or off campus) will be subject to consequences up to and including termination from the graduate faculty and/or removal as thesis advisor or committee member from all associated student committees. These consequences are crucial to protect the integrity of student training in our program, and are consistent with the goals of the University of Minnesota President’s Initiative to Prevent Sexual Misconduct (https://president.umn.edu/content/presidents-initiative-prevent-sexual-misconduct-key-links).

Relevant policies

- University of Minnesota https://policy.umn.edu/hr/sexharassassault.

Reporting

The EOAA office handles instances of alleged sexual harassment (https://diversity.umn.edu/eoaa/home). Report occurrences of sexual violence or threats immediately by calling 911 or University Police (612.624.3550).

All PMB graduate faculty members and staff (including postdoctoral researchers and fellows), and graduate students are considered “mandatory reporters” under University policy Title IX laws, which define responsibilities of employees in advisory and supervisory positions to report instances of sexual assault, stalking and relationship violence, or harassment (https://policy.umn.edu/hr/sexharassassault), and therefore are obligated to report harassment or discrimination to the University’s EOAA office.

While University employees are mandatory reporters, there are a few exceptions; counselors at Boynton Health Center, the Student Counseling Center, and at the Aurora Center are NOT mandatory reporters and can be spoken to in confidence.

Resources are available to help students and faculty better understand the definitions of harassment and to obtain training in how to maintain an inclusive, harassment-free environment:

- University policy on sexual harassment
- EOAA Workshop and Training Schedule
- Equity and Diversity Certificate Program

NOTE: Graduate students who are found to be engaged in unethical behavior or to be perpetrators of sexual harassment may be removed from the program without a degree.
While the DGS and GPC can be first points of contact and help to support students, post-docs, staff, and faculty with problems associated with harassment, resources are also available for students or faculty to report an incident or inappropriate experience to someone outside of the program.

- **Student Counseling Services**: [https://counseling.umn.edu](https://counseling.umn.edu). Counselors are not mandatory reporters under University Policy and can be a fully confidential first point of contact for sexual harassment concerns.
- **Aurora Center**: [http://aurora.umn.edu](http://aurora.umn.edu). Aurora Center employees and volunteers are not mandatory reporters under University Policy and can be a fully confidential first point of contact for sexual harassment concerns.
- **EthicsPoint**: [https://secure.ethicspoint.com/domain/media/en/gui/9167/index.html](https://secure.ethicspoint.com/domain/media/en/gui/9167/index.html). EthicsPoint is a service independent of the University and can be used to anonymously report “any situation or University conduct you believe violates an applicable law, regulation, government contract or grant requirement, or University policy.”
- **Student Conflict Resolution Center**: [http://www.sos.umn.edu](http://www.sos.umn.edu).

**EQUAL OPPORTUNITY**

The University of Minnesota is committed to providing equal access to and opportunity in its programs, facilities, and employment without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression.

Direct concerns or complaints about discrimination to the EOAA office ([https://diversity.umn.edu/ eoaa/home](https://diversity.umn.edu/eoaa/home)) and Bias Response and Referral Network ([https://bias- response.umn.edu/](https://bias-response.umn.edu/)). Policy: [https://diversity.umn.edu/eoaa/policiesanddirectives](https://diversity.umn.edu/eoaa/policiesanddirectives)
Respectful and responsible conduct in the PMB Graduate Program

The PMB program is committed to fostering the education of students in a welcoming and supportive environment. All students and faculty must treat each other in a respectful, professional manner. We are all responsible for holding our student and faculty community to professional and respectful standards, both on and off campus.

1. Harassment of any kind (including but not limited to verbal abuse and sexual harassment) will not be tolerated.
   - The relaxed atmosphere in some labs and in some environments can sometimes lead to thoughtless statements. Choose your words carefully and be mindful of your audience—all of our University sponsored facilities and events are professional environments, and you are among colleagues.
   - Excessive drinking at PMB events is prohibited, and any student or faculty member found to be intoxicated will be asked to leave the event and the incident brought to the attention of the department heads and DGS.
   - Differences of opinions and points of view are normal and even encouraged in a scientific environment; however, we have a responsibility to treat each other with respect. Avoid personal attacks when engaging in exchanges of ideas.
   - Sexual harassment includes both inappropriate physical contact and verbal intimidation in a sexual context. Refrain from touching or speaking to others in any way that might be taken as sexual or intimidating. All students have the right to be free of any sexual innuendos or insinuations during their graduate training. What one might consider light banter or an innocent joking remark may make another uncomfortable, or even be experienced as threatening or intimidating.

2. What to do if you experience or witness inappropriate behavior:
   - If you have been subjected to harassment of any type or if you witness inappropriate behavior, you should report it immediately to the DGS, your department head, a faculty member of the Dean’s office, or directly to the University’s EOAA office. Faculty, staff (including postdoctoral researchers and fellows), and graduate students are considered “mandatory reporters” under Title IX law and University policy (https://policy.umn.edu/hr/sexharassassault), and therefore are obligated to report harassment or discrimination to the University’s EOAA office. Staff at the Aurora Center, Boynton Health Center, and the Student Counseling Center are not mandatory reporters, information revealed to these people does not have to be reported to the EOAA office.
   - Under University policy, reports are held in confidence and protections from retaliation or adverse consequences are in place. While it is natural to be reluctant to report such incidents for fear of reprisal or creating problems for someone, reporting any incidence of harassment is important to prevent further escalation and to hold our community accountable.
   - If an incidence of harassment is reported to you as a course TA, you are obligated by University policy and common courtesy to respect confidentiality and help protect the person who made the complaint from retaliation. Understand that sharing the identities of or information about complainants or witnesses beyond a “need to know” circle is considered retaliation according to University policy.
• All reported incidents will be taken seriously and referred to the appropriate entity. Any student or faculty member subjecting others to harassment at a PMB graduate program event will immediately be asked to leave the event and reported to the program and department heads. Individuals subjecting others to harassment in any aspect of the program (including the laboratory, classroom, or off-campus UMN-related trips) may be terminated from graduate student or graduate faculty status in the program.

We appreciate the commitment of our faculty and students to creating a safe and constructive environment in the program. Our collective experience in class, in the laboratory, and at program events is important to our graduate program, and a comfortable climate is a big part of its success. We also have an obligation under University policy to provide the best possible experiences and opportunities for our students, and our students have a responsibility to bring constructive, collaborative behavior to our program. By working together as a respectful community, we can ensure that everyone finds the experience valuable, enriching, and positive.
Appendix A: PMB Ph.D. student semester-by-semester checklist

Before first semester

Plan rotations/other related activity
During your first semester in the PMB Ph.D. program, you must complete research rotations or another substantive activity that provides connections beyond your home lab. Both rotations and other activities for making connections outside of your advisor’s lab must be approved by the DGS.

- Set up your two rotations (8 weeks each) or your other related activity (16 weeks). Discuss with your advisor or DGS for input on rotation mentors, if needed.
- Register for one credit of PMB 8994 Directed Research under the A-F grading option. (Get a registration permission number from the graduate program coordinator.)
- By the fifth day of the semester, complete the PMB 8444 Directed Research plan form and submit it to the GPC (if you have not done so already).
- See the PMB Graduate Student Handbook for full details on rotations/other activities.

Funding
- Talk with your advisor about funding plans for spring semester and beyond.

Advising
- Meet with your advisor to discuss courses for fall semester and for subsequent semesters.
- Meet with your advisor to talk about their expectations and advising philosophy and your initial plans and goals.

Registration notes
- Take 6 or more credits (not to exceed 14) to be a full-time student.
  - You should register for 14 credits each semester until you have completed all required course and thesis (PMB 8888) credits. If you register for more than 14 credits in a semester, there will be additional tuition charges that you will be responsible for.
- Take 30 course credits total; two-thirds must have a grade basis of A-F (one-third may be S-N).
- Complete 24 doctoral thesis credits (PMB 8888).
- Registration for summer is not allowed, unless approved and paid for by advisor.
- When you start your registration, you must provide information regarding health insurance.
  - Check the box for Graduate Assistant Health Plan, even if you have not yet enrolled in the plan.
  - If you will not have GAHP and are on your parent’s or another plan, check the box to indicate that you have your own insurance and enter your health insurance information.
- Check the PMB Graduate Student Handbook for full details on registration.
First semester (fall of first year)

**Take courses** (Register by midnight the day before classes start.)

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE NAME</th>
<th>GRADE BASIS</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMB 8081</td>
<td>Integrative Plant Biology</td>
<td>A-F</td>
<td>3</td>
</tr>
<tr>
<td>PMB 8900 sec 001</td>
<td>PMB Colloquium</td>
<td>S-N</td>
<td>1</td>
</tr>
<tr>
<td>PMB 8900 sec 002</td>
<td>Itasca Orientation</td>
<td>S-N</td>
<td>1</td>
</tr>
<tr>
<td>PMB 8900 sec 003</td>
<td>PMB Student Seminar</td>
<td>S-N</td>
<td>1</td>
</tr>
<tr>
<td>PMB 8994</td>
<td>Directed Research</td>
<td>A-F</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Supporting courses</td>
<td>Courses as determined by you and your advisor</td>
<td>A-F</td>
<td>?</td>
</tr>
<tr>
<td>PMB 8888</td>
<td>Doctoral thesis</td>
<td>no grade</td>
<td>?</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS** 14

**Attend PMB Colloquium (seminar)**
- You must register for PMB 8900 section 001, and you must attend the seminars in order to earn an “S” grade.
- Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
- Sign up for lunch with the seminar speakers, as you are able.

**Hold meeting with temporary advisory committee**
- Meet with a first-semester/temporary committee to get advice on courses, research directions, and other activities.
- The DGS may serve as your temporary advisor, if needed.
- Committee members for this first meeting may all be PMB faculty members.
- Hold the meeting by the end of October.
- Check the PMB Graduate Student Handbook on scheduling and preparing for advisory committee meetings.

**Participate in directed research (rotations/related activities)**
- Register for at least one credit of PMB 8994. One to two credits is most common.
- Check the PMB Graduate Student Handbook for full details on rotations/other activities.

**Funding**
- Talk with your advisor about funding plans for spring semester and beyond.

**Program activities**
- Attend Phytograts coffee hours and fall meeting.
- Participate in other Phytograts activities.
- Participate in mentor-mentee events.
Second semester (spring of first year)

Take courses (Register by midnight the day before classes start.)

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE NAME</th>
<th>GRADE BASIS</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMB 8123</td>
<td>Research Ethics</td>
<td>S-N</td>
<td>.5</td>
</tr>
<tr>
<td>Supporting</td>
<td>Courses as determined by you and your advisor</td>
<td>A-F</td>
<td>?</td>
</tr>
<tr>
<td>PMB 8888</td>
<td>Doctoral thesis</td>
<td>no grade</td>
<td>?</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS** 13.5

Attend PMB Colloquium

- You do not need to register for PMB 8900 section 001 again.
- Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
- Sign up for lunch with the seminar speakers, as you are able.

Hold advisory committee meeting/complete annual review.

- Due by March 31.
- Meet with your committee to review your thesis research progress and get advice on courses, research directions, and other activities.
- See the PMB Graduate Student Handbook for details on scheduling and preparing for advisory committee meetings.

Submit Ph.D. degree planner.

- Complete PMB Ph.D. course plan and submit online GPAS degree planner.

Funding

- Talk with your advisor about funding plans for the upcoming academic year and beyond.

Program activities

- Attend annual PMB retreat.
- Attend Phytograds coffee hours and fall meeting.
- Participate in Phytograds activities.
- Participate in PMB recruiting visit events.
Third semester (fall of second year)

Take courses (Register by midnight the day before classes start.)

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE NAME</th>
<th>GRADE BASIS</th>
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<td>PMB 8901</td>
<td>Preparation of Research Proposals</td>
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<td>Supporting</td>
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<tr>
<td>PMB 8888</td>
<td>Doctoral thesis</td>
<td>no grade</td>
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</tr>
<tr>
<td>TOTAL CREDITS</td>
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</table>

Attend PMB Colloquium

- You do not need to register for PMB 8900 section 001.
- Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
- Sign up for lunch with the seminar speakers, as you are able.

Program activities

- Serve as mentor to a new PMB student.
- Attend Phytograds coffee hours and fall meeting.
- Participate in Phytograds activities.

Fourth semester (spring of second year)

Take courses (Register by midnight the day before classes start.)

<table>
<thead>
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<th>COURSE NAME</th>
<th>GRADE BASIS</th>
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<tbody>
<tr>
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<td>Courses as determined by you and your advisor</td>
<td>A-F</td>
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Attend PMB Colloquium

- You do not need to register for PMB 8900 section 001.
- Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
- Sign up for lunch with the seminar speakers, as you are able.

Complete preliminary written examination.

- See the PMB Graduate Student Handbook for details on the preliminary written exam process.

Hold advisory committee meeting/complete annual review.

- Due by March 31.
Meet with your committee to review your thesis research progress and get advice on research directions and other activities.
See the PMB Graduate Student Handbook for details on scheduling and preparing for advisory committee meetings.

**Complete/plan preliminary oral examination.**
See the PMB Graduate Student Handbook for details on the preliminary oral exam process.

**Funding**
Talk with your advisor about funding plans for the upcoming academic year and beyond.

**Program activities**
Serve as mentor to a new PMB student.
Attend annual PMB retreat.
Attend Phytograds coffee hours and fall meeting.
Participate in Phytograds activities.
Participate in PMB recruiting visit events.

**Fifth semester (fall of third year)**

**Register** (Register by midnight the day before classes start.)

If you have completed your preliminary oral exam and submitted the signed exam form to GSSP by August 31:

<table>
<thead>
<tr>
<th>COURSE #</th>
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<td>no grade</td>
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TOTAL CREDITS 1

If you have not completed your preliminary oral exam and submitted the signed exam form to GSSP by August 31:

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE NAME</th>
<th>GRADE BASIS</th>
<th>CREDITS</th>
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<td>Doctoral thesis</td>
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<td>6</td>
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</table>

TOTAL CREDITS 6

**Attend PMB 8900 section 003, PMB student seminar**
You should not register for PMB 8900 section 003.
PMB student seminar is on Fridays, 12:00 p.m. – 1:00 p.m. in 257 BioSci.
You will give a seminar to the first-year students about your research.

**Attend PMB Colloquium**
You do not need to register for PMB 8900 section 001.
Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
Sign up for lunch with the seminar speakers, as you are able.
Complete/plan preliminary oral examination (if you haven’t already).
☐ See the PMB Graduate Student Handbook for details on the preliminary oral exam process.

Program activities
☐ Serve as mentor to a new PMB student.
☐ Attend Phytograds coffee hours and fall meeting.
☐ Participate in Phytograds activities.

Sixth semester (spring of third year)

Register (Register by midnight the day before classes start.)

<table>
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</tr>
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</table>

Attend PMB Colloquium
☐ You do not need to register for PMB 8900 section 001.
☐ Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
☐ Sign up for lunch with the seminar speakers, as you are able.

Hold advisory committee meeting/complete annual review.
☐ Due by March 31.
☐ Meet with your committee to review your thesis research progress and get advice on research directions and other activities.
☐ See the PMB Graduate Student Handbook for details on scheduling and preparing for advisory committee meetings.

Funding
☐ Talk with your advisor about funding plans for the upcoming academic year and beyond.

Program activities
☐ Serve as mentor to a new PMB student.
☐ Attend annual PMB retreat.
☐ Attend Phytograds coffee hours and fall meeting.
☐ Participate in Phytograds activities.
☐ Participate in PMB recruiting visit events.
Fourth year and beyond

Register (Register each semester by midnight the day before classes start.)

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE NAME</th>
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TOTAL CREDITS 1

Attend PMB Colloquium
- You do not need to register for PMB 8900 section 001.
- Colloquium is on Tuesdays, 3:30 p.m. – 4:40 p.m. in 105 Cargill Building.
- Sign up for lunch with the seminar speakers, as you are able.

Hold advisory committee meeting each semester and complete annual review.
- Meet at least one time per semester with your advisory committee.
- Complete your annual review at the spring advisory committee meeting. Due by March 31.
- Meet with your committee to get review and get advice on courses, research directions, and other activities.
- See the PMB Graduate Student Handbook for details on scheduling and preparing for advisory committee meetings.

Complete your thesis research and analysis and write your dissertation.
- See the PMB Graduate Student Handbook for details on degree completion steps, dissertation writing resources, etc.

Funding
- Talk with your advisor about funding plans for the upcoming academic year and beyond.

Program activities
- Serve as mentor to a new PMB student.
- Attend annual PMB retreat.
- Attend Phytograds coffee hours and fall meeting.
- Participate in Phytograds activities.
- Participate in PMB recruiting visit events.
Appendix B: Outline of advising statement

Provided by Dr. Lanyon, Dean of the Graduate School, spring 2018.

GRADUATE STUDENT AND POSTDOCTORAL FELLOW ADVISING STATEMENT
Dr. ABC

THESIS
  • TOPIC ORIGIN: Who comes up with the idea for the thesis?
  • ORIENTATION: Are there any constraints on the kind of topics such as being question-oriented, hypothesis driven, applied, community-engaged….
  • THESIS vs. PUBLICATION: How does the thesis relate to any existing or planned publications?

PUBLICATIONS: What are your expectations regarding your and your student’s participation in publishing?

AUTHORSHIP: What are your expectations regarding your and your student’s roles as authors?

CAREER PATHS: What are your expectations about the career paths your students will pursue?

MEETINGS:
  • LAB GROUP MEETINGS: Does your lab group meet and, if so, what are your expectations regarding student attendance and participation?
  • INDIVIDUAL MEETINGS: What are your expectations regarding the frequency and nature of one-on-one meetings with your students?

INDEPENDENCE: What are your expectations regarding the degree to which your students work independently?

NATIONAL MEETINGS: What are your expectations regarding student attendance and participation at national meetings?

GRADUATE STUDENT STIPENDS: What financial commitment do you make to supporting your students and what are your expectations of them?

RESEARCH FUNDING: What are the relative roles of you and your students regarding obtaining funding to support the students’ research?

COURSEWORK: What expectations do you have regarding coursework above and beyond the expectations/requirements of the graduate program?

GRANT PROPOSAL WRITING: Do you expect your students to participate in writing research and/or fellowship grant proposals?

ORIGINAL LITERATURE: What expectations do you have of your students regarding their familiarity with existing literature as well as keeping up on new scholarly works?
TEACHING: *Do you expect your students to teach and if so, what courses and how often?*

PERSONAL LIFE: *What are your views about work/life balance?*

TIME MANAGEMENT: *What thoughts/suggestions do you have for your students regarding priorities and time management?*

RELATIONSHIPS WITH OTHER STUDENTS: *What are your expectations regarding how your students interact with other students in your lab, in the graduate program, and across the university?*

DEPT./UNIV. SERVICE: *What are your expectations regarding participation by your students in service functions within the graduate program, across the university, within their professional societies, and within the broader community?*

ETHICS: *What are your ethical expectations of your students?*

RESOLVING CONFLICTS: *If there are conflicts (e.g., between you and your student, between students, between your student and another faculty member) how do you prefer that they be resolved?*

INDIVIDUAL DEVELOPMENT PLAN: *Do you expect students to produce an IDP? If so, how often do you expect them to formally update their IDP?*

MENTORING: *Do you expect your students to have mentors other than their committee members? If so, what is your role (if any) in identifying mentors?*
Appendix C: Example advising statement

Revised February 8, 2018. Provided by Dr. Lanyon, Dean of the Graduate School, spring 2018.

GRADUATE STUDENT AND POSTDOCTORAL FELLOW ADVISING STATEMENT
Scott M. Lanyon

THESIS

- TOPIC ORIGIN: I expect my advisees to develop their own research topic within the discipline of systematic biology. In general, I expect my advisees to do research on birds but that is not essential.

- ORIENTATION: I expect my advisees to develop research projects that are designed as tests of competing hypotheses.

- THESIS vs. PUBLICATIONS: The thesis chapters should be written with the expectation that they be submitted as a series of publications. The exception is the first chapter which should be synthetic and describe how the subsequent chapters represent a cohesive research program. Ideally at least one chapter, or even all, will be submitted for publication prior to the defense.

PUBLICATIONS: Publishing is essential for most career paths followed by my advisees. In addition to preparing their thesis chapters for publication, I expect my advisees to be working on manuscripts that may be tangential to their thesis. By the time they graduate I expect my advisees to have multiple publications in the publication pipeline (published, in press, in review, in preparation).

AUTHORSHIP: Resolving authorship arrangements early is essential if we are to maintain positive relationships with our colleagues. I have no unique expectations as an advisor regarding authorship. If I have had significant involvement in a research project (developing the original idea, collecting data, analyzing data, and/or writing a portion of the manuscript) then I expect to be listed as an author. I prefer to decide roles and authorship at the first sign that an activity will result in a publication. This decision can be altered by mutual agreement at a later date if roles have changed.

CAREER PATHS: My job as an advisor is to help my advisees to be successful in their chosen career. I can’t do that if I don’t know what career is desired. I want my advisees to let me know the range of career paths in which they are interested at the earliest possible date. I will do my best to help my advisees obtain the experiences and skills needed to succeed in those various careers.

LAB GROUP MEETINGS: I expect my advisees to attend monthly lab group meetings that I schedule unless they are traveling or have some other unavoidable conflict.

INDIVIDUAL MEETINGS: I expect my advisees to schedule individual monthly meetings with me and to schedule additional meetings as necessary (see statement on INDEPENDENCE)

INDEPENDENCE: I expect my advisees to work without daily input or guidance from me. I am available for consultation, but they are expected to use their own good judgment. If an advisee needs input from
me in order to move forward, it is their responsibility to seek me out or schedule a meeting. I am happy to initially provide more regular guidance to advisees who are not used to working independently but by the time they leave the university I expect them to be able to function as independent scientists.

NATIONAL MEETINGS:
Developing a professional network is essential, regardless of career path. Therefore, I expect all my advisees to attend national meetings and to report on their research at those meetings. I will do my best to help find money to make this possible but obtaining support for meeting attendance should be a joint effort.

GRADUATE STUDENT STIPENDS: In collaboration with the graduate program, I guarantee funding for five years. The nature of that funding (TA, RA, Fellowship) is often unpredictable but there will be funding. Never-the-less, I expect my advisees to write and submit fellowship proposals where possible. Writing such proposals is excellent experience and receiving such fellowships increases a student’s competitiveness.

RESEARCH FUNDING: Funding the research of my advisees is a joint responsibility. I will work with my advisees to find the necessary funding.

COURSEWORK: I don’t have any standard course requirements beyond those of the graduate program. Instead I expect my advisees to have, or to develop while at the university, a solid background in the concepts and skills that their research and career path require. This could be accomplished in the form of coursework but also workshops and informal arrangements with other individuals (students, postdocs, faculty or staff). In systematic biology that generally means being very comfortable with multivariate statistics, R, and systematic theory and methodology generally.

GRANT PROPOSAL WRITING: Grant proposal writing is a critically important skill regardless of career path pursued. Therefore, I expect all my advisees to be active in writing proposals for both university and external funding opportunities (fellowships, research grants, travel grants...). By the time my advisees graduate I expect them to be able to list several funded grants on their CV.

ORIGINAL LITERATURE: Regardless of career path, a current knowledge of the literature is essential. Therefore, I expect my advisees to spend significant hours each week reading -Systematic Biology; Evolution; Molecular Phylogenetics and Evolution; American Naturalist; Trends in Ecology & Evolution; relevant taxon-focused journals).

TEACHING: Teaching is a tremendous way to learn to communicate complex concepts to a non-specialist audience. I expect all my advisees to be involved in teaching. I encourage graduate students to teach at least four semesters. The graduate program only requires two semesters but I don’t think this gives students sufficient opportunity to learn to become excellent communicators. Furthermore, any career path pursued by my advisees will require that they be able to balance multiple diverse responsibilities (such as teaching and research). Graduate school is a low-risk place to learn to balance such responsibilities. I encourage students pursuing teaching careers to TA for multiple courses during their graduate career. This is more demanding of their time but this diversity of experiences is excellent training for the heavier and more diverse course loads of faculty at primarily teaching colleges. For postdocs interested in pursuing a faculty career, I will try to find an opportunity for them to do
sabbatical replacement teaching at the university or at one of the metro-area institutions. I invite all my advisees to give a guest lecture in one of my courses.

PERSONAL LIFE: I expect my advisees to have one. People who spend all their time on work activities generally tend to be less productive over the long term, less creative in their work, and frankly less fun as colleagues. People with a partner, and especially those with children, become severely stressed if they do not put sufficient effort and time into their personal lives.

TIME MANAGEMENT: This document makes it clear that I expect a lot of my advisees. The less time efficient a person is, the more hours/week it will take to meet those expectations. Therefore, I expect my advisees to learn and to practice good time management.

RELATIONSHIPS WITH OTHER ADVISEES: My advisees learn the most from other students and/or postdocs. Therefore, I expect my advisees to develop a great professional relationship with other people in my lab and in the graduate program generally. This relationship should be supportive, not competitive. Early career students should seek out the advice of late career students and postdocs. In turn, late career students and postdocs should be generous in providing advice.

DEPT./UNIV. SERVICE: I feel strongly that organizations run more efficiently and make better and more mission-driven decisions when everyone contributes their time to shared governance activities. Therefore, I think it is important for my advisees to gain experience in such activities. I do not expect these activities to take more than 1 or 2% of their effort.

ETHICS: My advisees should familiarize themselves with, and abide by, the University of Minnesota’s code of conduct:

RESOLVING CONFLICTS: Communication is key to minimizing conflicts. For example, this document is an effort to clearly communicate my expectations to reduce the possibility of misunderstandings between my advisees and me. If you have concerns about your interaction with me or with anyone else, please don’t hesitate to come talk with me. If you are uncomfortable speaking with me, the DGS, the Department Head, the College HR Lead, or the Office of Student Conflict Resolution. If you wish a conversation to remain anonymous, be sure to indicate that at the start of the conversation.

INDIVIDUAL DEVELOPMENT PLAN: I can only help you become better prepared for your career if I know what career(s) you are considering and would like to pursue. Therefore, I expect all my advisees to have an individual development plan and for them to share with me part or all of that IDP to the extent they are comfortable doing so.
Appendix D: Guidelines for successful mentoring

Keys to S.U.C.C.E.S.S. for Graduate Students and Faculty Mentors
Developed by the Work Group on Advising & Mentoring
Downloaded from http://gradvising.umn.edu/success.html 11 May, 2018

A graduate student is encouraged to set clear expectations for academic relationships. Advisees who have a clear idea of how the advisor and other mentors can help them achieve their educational and career goals will get the most out of relationships with mentors and advisors. Create a plan to guide you as you work with mentors to complete your degree.

Understand your rights and responsibilities. Advisees have a right to be treated with respect; this includes the right to study in a harassment-free environment, have equal access and opportunity in all educational programs without individual or systemic barriers, and seek religious and disability accommodations. Advisees are expected to contact appropriate offices to request accommodations, seek advocates and mediation.

Communicate with advisor/mentors regularly. The success of any effective relationship is dependent on communication. Advisees need to make sure they communicate with faculty mentors regularly, not just when facing a crisis. Communication includes sharing successes, asking questions and seeking feedback in problem solving, which allows an advisor to provide effective, timely support, and can help prevent a crisis.

Connect with resources to nurture your well-being. Pursuing a graduate or professional degree can be stressful, and it is important for advisees to connect with resources that will nurture their emotional, physical, cultural, and spiritual well-being – whether individuals, student services programs, or interest/affinity groups. Putting personal interests on hold while in school often creates stress, which hinders rather than helps progress to degree. If your advisor does not appear to have your best interest at heart, you have a right consult other mentors and to seek a new advisor.

Establish milestones to reach degree completion. Take time to develop an Individual Development Plan in order to know, understand, address and update progress with your specific writing, teaching, research and professional development goals. Review with peers and mentors. Reflective practice allows you to plan for success.

Spend your time wisely. Graduate school success is highly dependent on how well students manage their time and that of their advisor. Learning effective time management skills is a start, using them is a necessity for personal development and for interacting regularly and effectively with advisors.

See yourself as part of a community. Show up at departmental events and invite faculty to your events, offer to be part of new student recruitment, set up resource sharing for teaching assistants, enroll in professional development programs to improve skills and deepen networks. Engaged students report increased satisfaction and progress.
A Faculty Mentor is encouraged to support your student’s goals and career plans. Advisors who listen to graduate and professional students’ goals, share ideas and additional possibilities, and ask future-looking questions will help their advisees to find and create their own appropriate career paths. Take care to distinguish between your hopes and their hopes.

Understand your roles and responsibilities. One of the key roles an advisor plays is that of a mentor. As a mentor, the advisor might help the advisee assess their academic strengths and weaknesses as well as assist in course selection and exploring possible research areas. In addition, an advisor also has a responsibility to treat advisees with respect and to ensure that the advisee is able to pursue their academic work in a harassment-free environment with access to any needed accommodations.

Communicate timely feedback respectfully and constructively. Direct and honest feedback will help students assess errors and move forward when it is informational, specific, constructive, timely, positive, personal and differential. Faculty mentors, especially dissertation advisors and workplace supervisors, are expected to refrain from engaging in intimidation and humiliation in workplace and professional interactions with students whatever the setting or context.

Create a safe environment for your graduate student. Advisee will experience highs and lows: exhilaration, fear, possibility, frustration, joy, anger. Ideally, an advisor will hear and talk about these experiences and be equipped to provide appropriate guidance, including referrals. Not “just” students, RAs or TAs, advisees have full, complex lives; therefore, advising includes learning about/creating an environment free from racism, sexism, homophobia and other forms of prejudice, intolerance, or harassment. Because students are also future colleagues, it is critical that advisors understand and respectfully navigate current power dynamics.

Expect and elicit on-going progress to degree completion. To create effective annual student progress reviews, schedule regular short meetings each term: a first discussion establishes goals with steps/suggestions/resources for meeting them; a mid-term email exchange allows for updates and adjustments; a term-end review provokes mapping out next steps and goal setting.

Serve as a resource and provide networking support. When a faculty or staff member commits to serving in a mentoring role, that person is an on-going contributor to the success of the student. Talking through ideas, linking students to appropriate resources and suggesting ways to broaden or deepen the student’s network are essential components of this role.

See yourself as part of a community. Create opportunities for informal socializing within department events and support student groups in their events. Know your local resources for graduate student professional development and bring this information to your department. Talk with peers across institutional types to help students understand multiple career paths.
## Appendix E: Best advising practices for graduate student success

*Adapted from the College of Food, Agricultural and Natural Resources Sciences: Best Advising Practices for Graduate Student Success.*

<table>
<thead>
<tr>
<th>Best practice</th>
<th>Student’s &amp; advisor’s responsibility</th>
<th>Advisor’s responsibility</th>
<th>Student’s responsibility</th>
</tr>
</thead>
</table>
| **Establish milestones for academic and research progress** | • Within 60 days: Discuss and agree on milestones to track student progress.  
• By 2nd year for Ph.D. students or 2nd semester for M.S. students: Establish advisory and exam committee(s) and develop a course work plan.  
• Annually: Document and review student progress. | • Communicate expectations with respect to independence and how student is to function in the fairly unstructured graduate school environment.  
• Clarify availability of continued funding (e.g., assistantships or fellowships). | • Clearly understand your own motivations for going to graduate school.  
• Seek alternative or supplemental funding, as needed.  
• Consult the Director of Graduate Studies or Graduate Program Coordinator to ensure that program requirements are met on time. |
| **Maintain open lines of communication and provide timely feedback** | • Discuss an optimum meeting frequency and meet regularly.  
• Establish written expectations and schedules; update as necessary as the degree program progresses or with changing circumstances. | • Comment on student’s work (reports, draft posters, seminar presentations, manuscripts, etc.) within 30 days.  
• Be mindful student’s time, remember they have numerous commitments. Give them enough lead time to complete work.  
• Communicate developments that may impact time to degree (e.g., planned absences, sabbaticals, termination of funding).  
• Understand cultural differences that might affect communication. | • Submit progress reports, draft posters or seminar presentations, manuscripts, thesis drafts, and other work in a timely manner.  
• Be mindful of advisor’s and staff time. They are here to work with you, but remember they have other commitments. Give them enough lead time to help you with questions or issues.  
• Inform advisor of changes in schedule, including any paid or unpaid leave.  
• Seek help from advisor or from other sources to resolve difficulties. |
| **Understand the terms and conditions of graduate assistant employment** | • Ensure that offer letters and terms of employment are understood.  
• Comply with business practices of the department/program. | • Understand graduate student rights.  
• Provide a safe work environment free from intimidation, humiliation, or harassment. | • Complete any required training (e.g., safety, responsible conduct of research, ethics) in a timely manner. |
| **Develop research ideas and career goals** | • Agree on the scope and sequence of thesis research (thesis proposal) and engage at all stages.  
• Clarify expectations for multiple tasks (e.g., teaching, work/life balance).  
• Develop student career goals; revisit and revise periodically. | • Give constructive feedback on student’s research ideas.  
• Mentor students as they apply for jobs and advise on effects to their degree plan. | • Keep a journal of research ideas and activities.  
• Seek professional development opportunities. |
| **Connect with the larger campus and professional community** | • Recognize and respect cultural differences.  
• Seek opportunities for leadership and professional development skills such as: public speaking, research ethics, working across differences, collaboration, conflict resolution, and data management. | • Help student network with colleagues at other institutions.  
• Support student participation in scientific conferences, campus seminars, and on committees within the U of MN and CBS. | • Attend campus seminars and events.  
• Serve on committees within the U of MN and CBS.  
• Participate in graduate student orientation and recruitment activities.  
• Participate in scientific conferences (find external travel funding, as needed). |