

I. Key principles

Respect. We respect the opinions and rights of all lab members, and we assume that lab members are being honest in their efforts and actions. We give people space to express their opinions, and we respect our intellectual and physical space in the lab. We respect diverse backgrounds, and make a concerted effort to communicate across those experiences.

Equitable and inclusive environment. Fostering a welcoming and inclusive environment is critical, and we work actively to make our lab and the scientific community a better place for everyone. All forms of discrimination are not tolerated. We welcome diversity in all its forms including all religions, nationalities, generations, socio-economic statuses, first-generation, LGBTQIA+, BIPoC, Latin, disabled, and all other groups traditionally underrepresented in science. We also realize everyone is coming from a different place, both scientifically and personally, and will make adjustments to make sure everyone has an equitable experience in the lab.

Communication. We strive for clear channels of communication, avoiding condescending styles of communication that can be hurtful. We are empathetic toward each other and express that empathy in our daily communications.

Professionalism. We conduct ourselves appropriately, are responsive to lab requests and emails, come prepared to our obligations, follow through with our agreements, and avoid negativity, gossip, and poor inter-individual dynamics.

Engagement. We show up! We participate in departmental and lab activities on a regular basis, and promote the broadest participation by all members of our group. We participate and help organize lab events, outreach, or other activities. Our invitations to these events are always inclusive. We contribute enthusiastically to events and lab actions that build our community.

Integrity. We pledge to uphold the highest ethical standards in research and professional actions.

Support. We help each other! We celebrate all successes for lab members. We openly discuss and troubleshoot failures. We collaborate on maintaining this supportive environment not only in our science, but in our interactions, friendships, and collaborations.

Independence. We foster a collaborative environment, but a major goal of mine is for you to become an independent thinker. We therefore encourage lab members to pursue the lines of inquiry and methods they find most exciting.

II. Lab citizenship

Being a good lab citizen

You'll be working with a diverse group of scientists, including other graduate students, postdocs, undergrads, and others. I expect you to support these other folks with any reasonable request. At the minimum, this would include keeping any shared spaces clean and making sure things are in their proper place. This will likely also include helping others in their various endeavors, maybe by helping for an afternoon on an especially labor-intensive project, looking after plants while someone is out of town, or teaching a colleague how to do something. Lab members also read drafts of each others' manuscripts, comment on presentations, and give general feedback on their research. You can expect me to also be a good lab citizen and take any complaints about bad lab citizens seriously.

Face to face time

It's important that we have a standing weekly meeting to discuss research and professional development. I expect you to attend this meeting as scheduled, although we can reschedule and cancel from week to week if needed. You can expect me to also be available and prepared for this meeting. At this meeting, we can discuss your ideas, current research projects, things that aren't working, what certain results mean, and anything else. We should identify weekly goals to be met before the next meeting. This meeting should be scheduled for 0.5-1 hour, although we don't have to use the whole time. As you become more independent, we may also switch to meeting less frequently.

Communication

Email should be our primary means of communicating remotely. I generally respond to emails quickly and I expect you to do so also as needed. You are encouraged to update me via email on research progress or new results, and feel free to drop in my office and share with me. If there isn't a deadline or something approaching, we can always address things via our in-person meetings, at our weekly lab meeting, or more informally in the lab.

Hours and work-life balance

I do not manage working hours or keep track of your time in the lab. I manage our expectations instead and make sure you are making adequate progress. You can work from your office, your home, or a coffee shop. Generally, I expect you to be available on a somewhat regular time schedule so we can discuss research questions and ideas as they arise. This likely means you should expect to spend some time in your lab/office everyday, but it doesn't have to be on a specific schedule and can change whenever. If you're planning to be out of town or the office for more than a couple days (e.g., going to visit somewhere), let me know so I know what's going on. Take time off as you need, just communicate your needs to me.

Most successful grad students realize that making progress in research requires time and time management. Everyone's experience with this will likely be different. Some experiments may require you to come in at odd hours or work for many hours at a time. These are usually short-lived and you can definitely work "more now and less later". There are also sometimes deadlines for papers or proposals that need to be met, which might require you to work more at certain times. Proper time management can mitigate this, but it's something that everyone struggles with.

III. Pathway to a successful graduate education

Developing ideas and independence

How do you decide what research you will do as a graduate student? As mentioned, a major goal for every student in the lab is to turn them into an independent scientist. Part of this is being able to absorb information from the literature, presentations, or other sources and identify interesting knowledge gaps that can advance one or more fields. Then devising an experiment or analysis plan to fill those gaps with novel discoveries. This is what I expect you to do.

As a PhD student, I will not assign you dissertation projects. You are welcome to read funded grants for inspiration, but a majority of your dissertation research ideas should come from you, not me.

You can expect me to discuss your ideas with you at length to identify which ones are most likely to be impactful and feasible. I will not let you pursue a project I think will take too long, not produce a meaningful contribution to some field, or be too tricky.

When you first join the lab, I may suggest a particular project that needs a lead – this is largely to get you experience working in the lab, using methodologies we use, and getting your name on a publication. These initial projects will likely be a side project for you, not a dissertation chapter. By the end of your first year in the lab, you should have a general idea of what you want to do (i.e., the overarching question your dissertation will address). By the end of your second year, you should have several clear projects (at least 3) that can be dissertation chapters. Again, we will work on coming up with these ideas together, but the “kernel” of these projects should come from you. Of course, things may change at any time and you’ll likely drop some projects and pick up others along the way.

Milestones

You’ll have to jump through various hoops to fulfill the requirements of your graduate program.

This includes taking some number of required courses and another number of elective courses.

You’ll also have to form a graduate committee (or two), have regular meetings with them, take your qualifying exams, submit annual check-ins to a graduate program officer, and eventually undergo a dissertation defense. These requirements should be laid out in pretty good detail in the graduate handbook of your graduate program. I expect you to read and understand this document and generally stay up to date with these requirements or ask graduate program officials if we have questions. You can expect me to also read and understand this document and prepare with you when approaching a milestone.

Forming your dissertation committee is an important milestone. This is something we should shoot for you to complete by the end of your first year. Committee members might become collaborators, so it’s important for you to pick people that can help your research, but will also get along with you and me. I’ll help do this. You should have a committee meeting once a year.

Mentoring

Most graduate students in the lab mentor undergraduates and you should expect to mentor at least a couple. Science is a team endeavor and as you transition to being a more senior member on the team, you need to learn how to effectively manage and train more junior lab members. We will discuss effective mentoring strategies and how to maximize the experience, for both you and your mentees. I also take undergrad mentorship seriously and we want to ensure we are getting people excited about science, not driving them away.

Mentoring undergrads should be a fairly standardized procedure in our lab group. There is a mentor handbook that you should follow, especially when first taking on a student. It is also important that we aren’t taking advantage of undergraduate researchers, they should be compensated for their work with pay, research credits, and/or authorship. They should also be encouraged to apply for their own funding and present their work at meetings.

Writing, presenting, and other professional skills

You should expect to learn how to effectively communicate your science to the scientific community and to more broad audiences. This will mostly involve a lot of writing: manuscripts, proposals, and other documents. Expect me to help you learn how to write more effectively. This includes face-to-face time where we sit down and go over why what you wrote isn't how I would write it. We will always go back-and-forth editing and rewriting manuscripts and proposals before they are submitted, sometimes dozens of times. You can also expect to get feedback from the rest of lab, both formally during lab meeting and informally during brief conversations or after sending a draft around. Other professors in the department may also give you feedback and collaborators should have plenty of time to give comments before something is submitted. Your ultimate feedback will come from reviewers, and we'll work together to draft responses to any comments they make. You are also expected to present your work. This will consist of mostly informal presentations during lab meeting (you should expect to update the group on your projects once per semester), and more formal presentations at national and international **conferences**. Myself and others in the lab will give you feedback on your presentation, including everything from the visuals to your speaking style, before you have to present formally.

I expect you to attend about one conference per year, which might include venues the lab usually attends (Botany, Evolution, SICB, SMCB) or other conferences that you're specifically interested in. If you present your work, you can expect the lab to cover the costs of going to the conference (at least one per year). However, I expect you to also actively apply for travel funds from the department, college, and the conference itself. A successful conference may yield multiple "lines on your CV", including some funding, the presentation itself, service activities performed at the conference, maybe an award, presentations by a mentee, etc.

Publishing

An important part of science is disseminating your research. Right now, peer-reviewed publications are the main way we do this. Because of this, I expect you to publish your work. At a minimum this will consist of publishing your dissertation chapters, hopefully as they're being completed and not at the end of your graduate career. You should typically shoot to have all your dissertation chapters published, in review, or close to submission before you defend – with you as the first author.

There's also a good chance you will have other publications in the lab, either side projects that you lead and write up, or ones you help with where you are listed as a co-author. These aren't hard rules for graduating, but I wouldn't expect someone to be ready to graduate without a single chapter published.

Publishing is also important for your career. Almost any career in biological research will expect a graduating PhD to have some experience publishing their work. First-author publications also let others know you can draft, edit, submit, respond to reviews, and generally lead scientific work. Authorship can be a somewhat touchy subject, but in general you should expect to be the first author on projects you develop, carry out, and write up. I'll generally be the last author on your publications if they're carried out in my lab. For other cases, we should make it a point to discuss authorship on projects early during their development.

I will work with you throughout the writing, editing, and publishing of any manuscripts, giving you tons of feedback for earlier manuscripts and letting you transition into hopefully a more independent writer later on in your graduate career.

Graduation

In general, you need to publish your dissertation work, fulfill the obligations of your graduate program, and get the approval of your committee to graduate. Publishing your dissertation work means that at least one chapter should be published and the other two should be in review or close to being submitted. Fulfilling the obligations of your graduate program means taking all required

classes, doing the required TAing, passing all exams, writing your dissertation, etc. Getting the approval of your committee means passing your defense. Some of these are hard rules, while the publication one is a bit more flexible, but this should give you an idea of the expectations for graduation.

In general, biology graduate students take 5-6 years to graduate. There is a ton of variation around this though, and if you come in with a master's degree or significant prior research experience, you'll hopefully graduate sooner. Sometimes projects work out really quickly and easy, and other times they take a lot of troubleshooting. Students that have projects dependent on successful field seasons might take longer as well.

Finally, if you've got something lined up for after you graduate (a postdoc, a job, etc), myself and your committee will be more likely to feel ok with you graduating "early".

Postgraduation

We will likely continue to work together in the short term after you graduate for you to finish off any projects and submit your remaining work for publication. If you're no longer interested in the work you were pursuing, we can discuss if it would make sense for someone else in the lab to finish it off, or for me to write it up. But as long as you still want the responsibility, the projects you lead in my lab are still "yours", given that you make an effort to work on them.

In the long-term, I hope that we can continue to remain colleagues. This could include starting new projects together, co-authoring grant proposals, serving on committees together, mentoring students, etc. I still maintain active collaborations with many of my previous mentors, and I hope this will carry over to our relationship.

IV. Financial support

You are guaranteed a certain salary and length of employment when you sign your contract at the beginning of your appointment as a graduate student. This will vary depending on what graduate program you're in, whether you have a fellowship, etc. Some graduate students in the lab may therefore get paid more than others, and it's not always because they have worked harder, etc. Assuming you make acceptable progress, you are also guaranteed a certain number of years of being paid (usually 5), although if you're making reasonable progress on your degree, this can usually be extended. You can expect the terms of this contract to be upheld by myself and the administration. I also expect you to uphold these terms.

Generally, biology graduate students make enough money to live a comfortable, but not upper-class lifestyle. Your stipend should ensure you can live fairly close to campus and bike/commute using public transportation, but you might only be able to afford a small apartment or studio. Alternatively, you may be able to afford a nicer place, but have to live further away. Most graduate students live fairly close to campus in a decent apartment with a partner/roommate or in a standalone house with more than one roommate. Taking out loans should not be a normal part of a grad student's experience.

Funding

Grad students in the lab are funded by a mix of TAs, RAs, and their own grants/fellowships. See below sections for expectations of TAs and RAs.

All grad students in my lab are expected to apply for their own funding. This means putting in both large fellowship applications (e.g., NSF GRFP) and small-scale grants to fund your own travel and research. You can expect me to support you in your applications in a variety of ways: helping come up with ideas, drafting proposals, editing them with you, submitting them, following up with resubmissions after they're inevitably rejected, and finding funding opportunities for you.

This accomplishes a few things:

- 1) It gives you "lines on your CV" – publications, presentations, service and mentoring accomplishments, and successful funding opportunities all contribute to a productive graduate career. You must have a certain number of these lines to apply successfully to your next position (postdoc, internship, real job, or whatever).
- 2) It frees up money in the lab for us to do other things – hire more people, do more projects, and get more equipment. This has a real impact when it comes to fellowships and supporting your own salary – graduate students and people in general are the most expensive part of running a lab.
- 3) It gives you more independence – if you secure money to do a certain project, then you can do it. Even if I'm not the biggest fan of it. You also won't have a TA or RA commitment to worry about. Cultivating independent scientists is a major goal for graduate students in the lab. If you can come up with a project and get others to buy into it, you're halfway there (doing it is the other half).
- 4) It gives you experience writing proposals. This will likely be a future part of your career in some way, so getting experience doing this in grad school is important.

TAing

You will be expected to TA at least somewhat during your time as a graduate student. Some graduate programs have an official TA requirement, but even if not, I want you to TA at least for a semester or two. This gives you experience teaching (which may be an important component of a future career), helps you learn or remember fundamental aspects of biology, and frees up some money in the lab (TAships are paid for by the university, RAships are paid from active grants we have).

While rewarding, TAing takes a lot of time. Especially the first time you do a specific class. Therefore, you'll naturally not be able to focus as much on your PhD research when you have to TA. Graduate students that must TA their entire time take longer to graduate than those on an RAship or their own fellowship. Our goal should be to decrease your time as a TA, either with RAships or fellowships.

RAing

You may be on an RAship at some point as a graduate student. Ideally, the grant supporting you as an RA is fairly aligned with your own research interests. In the best case, you can work on your own dissertation research while supporting the aims of the grant. However, this might not always be the case. It may be that the projects you work on as part of an RAship become side projects that you take the lead on. You may also work on part of a project, where you generate data, but are not the lead on the project. I expect you to work ~20 hours per week on the research objectives aligned with your RAship while you're appointed.

V. Conflict resolution

Grad students may encounter personal or professional conflict with their adviser at some point during their graduate career. We should address these conflicts in a professional manner. This could include something as simple as knocking on my door and us having a frank discussion about a miscommunication or misplaced/not met expectations. I want you to always feel comfortable bringing up such issues with me and I will let you know if I find something unsatisfactory about your performance/behavior.

Other times, a written email might be best. This might just be a more comfortable style to communicate a difficult topic, or we might want to have a paper trail of our discussions.

You should also feel comfortable going to someone else to discuss a conflict with me at any point. This might include your graduate program officer, a member of your graduate committee (some committees have a designated member for this), an adviser, the chair of the department, or even a higher official at UT (i.e., ombudsperson). I won't be offended if you got to someone else for conflict resolution and some graduate handbooks have fairly detailed flow-charts outlining various options.

Whatever the reason, I promise to not retaliate against you for any perceived conflict – meaning I won't treat you differently because we have had a conflict. If you feel as though I do, please tell someone (e.g., your grad adviser) so they can tell me to stop.

Co-mentoring, switching advisers, and leaving the lab early

I'm very open to you having a co-adviser. There are a number of reasons why a co-adviser might be a good idea and they can be added right at the beginning of your time, but also very easily later on. You might value their expertise, it might be a personal issue with mentoring styles (you like theirs or want something additional that I can't provide), or it might be professional (you like the way their lab is run and might want a rec letter or more from them in the future). If you think having an official co-adviser (rather than just a committee member or collaborator) would be helpful at any time, I'm happy to discuss it with you and them. There may be some logistical details to work out, but its generally easy and can be fun.

Students switch advisers during their PhDs, more often than most think. This should not be as stigmatized as it is and can be a good idea for both the student, adviser, and the whole lab. You may want to switch labs due to research/professional reasons, or due to personal reasons. Sometimes two people find it hard to have a working relationship and its just best to go their separate ways. Again, this shouldn't be a big deal. If you ever feel like switching labs, let me know ASAP so we can discuss why, set timelines, and start making plans.

Finally, if things are not working out for you in graduate school, it is perfectly fine to leave without getting a PhD. That path isn't for everyone and you can still be a great scientist/person. There are options to switch labs, get a Masters degree, apply to a different program, or pursue a different career. In any case, we should discuss these early if you're feeling that this path isn't for you. Its better to cut ties early than spend a few miserable years before thinking you're in too deep.

VI. What you can expect from me

You can expect me to listen to you seriously when you have problems and make an effort to address them. You can also expect me to be flexible – I realize we all have more important things in our lives and we sometimes need to be cut some slack to deal with life. I will also be around on a regular schedule, and you should not have to hunt me down to get feedback on something. Expect my door to almost always be open, and I'll let you know if I'm going out of town or will be unavailable for a time.

You can also expect me to constantly be applying for grants to support the lab. You should expect me to support you on RAships and in fellowships as needed for you to complete your dissertation research, especially if your dissertation aligns well with funding in the lab. You can expect me to thoroughly discuss your research objectives, give you options, and outline clear goals and deliverables for your projects and to keep you on task. However, you can also expect me to let you pursue your own ideas and develop projects as you best see fit.

You can expect me to provide thorough, timely feedback on publications and other written materials. I will not hold you up from publishing or submitting something. Similarly, I won't hold you up from graduating. If you've fulfilled your degree requirements, made decent progress on writing up your dissertation chapters, and your committee is ok with it, I'm fine with you graduating and won't keep you in the lab indefinitely as a worker.

You can expect me to write decent rec letters for you as long as you need them. If I can't write something positive, I'll let you know instead of sinking a potential application with a negative letter.