Advising Guidelines (2023) Cell Biology Yale University

This document outlines the respective expectations and responsibilities of students, thesis advisors, and others in our graduate program and serves as a companion to our graduate program handbook, which discusses additional expectations and procedures. We recommend that all students and faculty read the handbook. Individual labs may have their own "compacts" or other documents describing additional or complementary expectations and responsibilities for lab members. Knowing your and each other's responsibilities will facilitate your research relationship and reduce misunderstandings.

Selecting a Thesis Advisor

Track handbooks provide guidance on finding rotation advisors and conducting lab rotations in the first year of study. In the spring of the first year each student will select a formal thesis advisor and join a department, typically the primary department of the advisor. A student may declare two faculty to serve as advisors (either equally or with one as primary advisor) if the research project will benefit from the combined expertise of both advisors.

The Student's and Advisor's Shared Responsibilities

- *Communication*. The student and advisor share responsibility for establishing and maintaining a respectful advising relationship. You should meet early in the relationship to agree on expectations for how often to meet, how frequently to communicate, and via which mechanisms (email, in person, text, Slack, etc.) to communicate. Prior to joining a lab and as part of the process to determine if a student and potential advisor are compatible, you should discuss, at a minimum, broad aspects of the initial research project, how the lab is run, lab culture, level of independence, expected work hours, etc.

- *Research*. Both the student and the advisor share responsibility for carrying forward the thesis project. Initially the advisor may take the lead in designating the research plan and designing experiments, and over time the student will take increasing responsibility for the project. You are both responsible for the design of rigorous and reproducible experiments and for ensuring that the research is conducted ethically. You will work in partnership to select faculty for the thesis committee.

Both the advisor and the student should focus on developing a thesis that represents a substantial original contribution to the field. Most PhD research will lead to multiple publications (both first author and as a co-author), presenting the development of a line of research through multiple stages. At a minimum, the student must have submitted at least one first-author manuscript for publication prior to their thesis defense. The thesis committee determines when a student has completed sufficient research for a dissertation.

- *Conflict Resolution.* Conflicts inevitably arise in all working relationships. A key to catching and diffusing these situations early is good communication. Both the advisor and the student should

reach out to the other if they perceive a rising conflict. The beginning of a thesis committee meeting when first the advisor and then the student are asked to leave the room can be a good time to solicit help in resolving some conflicts. More urgent matters can be brought to the attention of thesis committee members outside of regular committee meetings. Concerns may also be taken to the DGS, who will maintain confidentiality to the maximum extent allowed. Some matters may require assistance from the Graduate School Dean's office, which should normally be facilitated by the DGS.

The Student's Responsibilities

- *Communication.* As noted above, communication is a key aspect of an advising relationship. You should maintain regular communication as well as alert your advisor when either personal or academic obligations may cause delays in communication or result in an unanticipated absence. Try not to avoid your advisor when you're having trouble or anticipating a difficult conversation. These are times when open communication is especially important.

- *Time*. You should plan to conduct research according to the expected hours of operation of the lab, meet the academic deadlines of our graduate program, and notify your advisor in advance of academic time commitments and deadlines. A thesis project is a time-intensive, years-long endeavor, and you can anticipate working hard on your project. At the same time, as noted below, time away from the lab is critical for overall health. If you are uncertain about what the lab expectations are, please ask your advisor to clarify them.

- *Research*. You are responsible for driving forward your thesis project, managing your research obligations amidst other academic responsibilities, completing your annual Dissertation Progress Report on time, and scheduling required thesis committee meetings. You should submit an update to your thesis committee members at least 48 hours in advance of the meeting (not counting weekends or holidays). Be open to critical feedback from your advisor and thesis committee members. Ask questions if you do not understand the feedback they give you; follow up with a plan to address the issues they raise. Graduate school is the time to transition from "student mode," when you're taking classes and doing work for someone else, to independent scientist mode, when you're a colleague of those working around you and the person who has ownership and responsibility for setting the direction of your research and the judgement necessary to carry out the research plan. You should maintain a clean and orderly research area, be respectful of common work areas in the lab, and maintain detailed and up-to-date lab research records.

- *Research findings*. Disseminating research findings is a critical aspect of becoming a scientist. You should work with your advisor to prepare drafts of manuscripts and seek opportunities to share research findings in departmental seminars and at national or international meetings. Because scientific writing and public speaking are challenging for both novices and experienced scientists alike, take advantage of workshops and resources provided by the Poorvu Center and the Graduate Writing Lab to develop your writing and presentation skills, and practice your presentations with your lab.

- *Funding*. Students are guaranteed funding through at least six years of graduate school. Support for the first three years is typically provided by a combination of University Fellowships, training grants, and other sources of centrally administered funds. Advisors' grants and other accounts usually support students from year four on. If these funds are insufficient, the advisor's department becomes responsible for a student's support. A student may not be told to leave the lab early because of insufficient funding. Students are strongly encouraged to apply for external funding (such as from the NSF, NIH, or international sources). These applications, typically made in years two through four, develop important skills, provide a financial bonus to the student, and help provide for the collective support of the lab. Students supported by training grants or funds from other training programs may be required to provide written or oral progress reports, or to participate in other training activities. Students are expected to help prepare figures and tables of their research findings for inclusion in the advisor's grant applications and scientific presentations.

- *Career and professional development*. Begin mapping out your career plans early in graduate school through an individual development plan, such as via https://myidp.sciencecareers.org. You should provide annual updates to your advisor and thesis committee about potential career plans and determine which professional skills you should develop in anticipation of your desired career path. Look for and attend career-focused talks and symposia and take advantage of career and professional development opportunities through the Poorvu Center, Office of Career Strategy, and other Yale offices.

- *Letters or recommendation*. Discuss with your advisor and others in advance your need for letters of support for fellowship applications and/or job applications. Follow your advisor's guidance on when to request these letters.

- *Health and well-being*. It is important for you to develop a healthful lifestyle. Taking time to eat a healthful diet, exercise, and get adequate rest improves academic performance and research productivity. Explore the health and wellness resources available at Yale, such as through Yale Health, the Payne Whitney Gym, and the Wellness Center. Plan at least one day off every week and take vacations according to our graduate program guidelines (University holidays including winter break, plus two weeks). Consult with your advisor prior to scheduling time off.

- *Seeking help*. Your DGS, thesis committee members, and the GSAS Dean's office are available if you encounter issues that you are unable to resolve with your advisor or for which you need additional assistance. Turn to these individuals as well for mentoring to supplement the guidance offered by your advisor.

The Advisor's Responsibilities

- *Communication.* As noted above, communication is a key aspect of an advising relationship. It is important to maintain regular communication with your student and to alert your student to anticipated delays in responding. Advisors need to be cognizant of the power imbalance inherent in the student-advisor relationship and to remain civil in all communications. Students may

sometimes be reluctant to initiate what they feel is a difficult conversation; advisors should initiate a conversation when they feel a student may be having trouble doing so, or when they feel a student may be having other difficulties. Addressing a conflict or a research hurdle sooner rather than later can save a student much time.

- *Paperwork.* The advisor should respond in a timely manner to requests from the Graduate Registrar, the Graduate School, training grant directors, and others for information necessary for the student's advancement in the program. Such information includes funding sources, thesis committee reports, Dissertation Progress Reports, etc.

- *Time*. Share your expectations for typical hours of operation in your lab, explain that some experiments may require deviating from these norms, and note whether you encourage in-person attendance vs. remote research activities. Discuss any non-academic obligations, such as family responsibilities or religious observances, that may limit your student's presence in the lab. Also discuss your concerns if your student is devoting too little (or too much) time to research activities.

- *Student responsibilities outside the lab*. Advisors need to be aware of time commitments students may have outside of the lab. Students take their qualifying exam in the second year (usually in the fall); you should expect them to devote 100% of their effort to their preparation over a period of approximately two months during which they will not be able to perform any lab work. Most students will have finished all course requirements by the beginning of their second year, allowing them to dedicate themselves to research. In addition, all students are required to attend a Responsible Conduct of Research refresher course in year four. Some students may also benefit from taking an additional course to develop a skill or to gain specialized knowledge. All students are required to serve as a Teaching Assistant twice, typically in years two and three. Some students may volunteer for extra teaching experience (for pay), though they should first seek your agreement. Students may need time to prepare for their regular thesis committee meetings, for Progress Report talks, or for presentations outside the University. Other activities may help prepare students for careers after Yale. Finally, students will need significant time away from the bench to write their dissertation and to prepare their public talk.

- *Research*. You are responsible for overseeing the overall research plan for your student, for securing funding to conduct the research, and for providing the materials and equipment necessary to carry out experiments. Guide your student in troubleshooting technical problems and interpreting data and provide regular feedback. Train them to become an independent scientist capable of setting the course of their own research. Finally, expect to review and sign the annual Dissertation Progress Report each May, beginning after the student's second year of study. You are also responsible for maintaining a stimulating and supportive lab environment that is tolerant, respectful, and free of harassment.

- *Research findings*. Make sure to detail your authorship policies early in a student's tenure in your lab. These rules should be fair and reflect each person's contribution to the publication. Remember that to be awarded a PhD, students must have at least submitted a first-author

original research publication. Provide guidance on writing manuscripts, and review drafts in a timely manner. Additionally, provide opportunities for your student to present research at national or international meetings and to practice these presentations before you and your lab.

- *Funding*. Advisors should use their best efforts to provide sufficient funding for a student's stipend and research expenses. Advisors may encourage students to apply for external fellowships. Such applications are not required but they provide benefits such as career development and financial benefits to both the student and the advisor. Advisors should promptly inform their department if they anticipate having insufficient funds available, in which case the responsibility for continued financial support falls to the department. An advisor may not tell a student that they must leave the lab by a certain date because funding is no longer available.

- *Career and professional development*. Meet with your student regularly to discuss career goals, assist with networking within the field, and provide opportunities for your student to develop mentoring, grant writing, and other non-bench skills. Encourage your student to attend career-focused talks and symposia, and to take advantage of career and professional development opportunities through the Poorvu Center, the Office of Career Strategy, and other Yale offices.

- *Letters of recommendation*. Advisors are expected to write letters of support for fellowship applications and job applications. Let your student know how far in advance letters should be requested.

- *Health and well-being*. Although students are responsible for maintaining a healthy work-life balance in graduate school, you should promote your student's health and well-being by creating a welcoming and positive lab culture, placing limits on excessive time in the lab, accommodating our graduate program's two-week vacation policy, and taking note of your student's overall well-being.

- *Seeking help*. Please turn to the DGS, thesis committee, and/or GSAS Dean's office if you have concerns that you are unable to resolve directly with your student.

Below is additional information for the student and advisor about the roles of the thesis committee and the Director of Graduate Studies.

Thesis Committee

A full description of the composition and roles of the committee is described in our graduate handbook. Important responsibilities include the following:

- At the student's request, committee members should make themselves available to meet one-on-one to offer research guidance, career advice, and/or assistance in navigating conflicts with the advisor.

- Committee members should review the progress report documents provided by the student in advance of each committee meeting.

- At the beginning of each thesis committee meeting, the committee will meet with the student without the advisor present, and with the advisor without the student present. These discussions help the committee assess whether the student and advisor are on the same page and whether any issues have developed between them that the committee can help address.

- At the committee meeting, members should provide constructive feedback as well as complete a formal evaluation form.

- The committee evaluates whether the student is ready to be admitted to candidacy for the PhD. This is an important responsibility as students may not be admitted to candidacy without the committee's recommendation, and students who are not admitted to candidacy by the end of year three must leave the program. The committee will usually make this recommendation at the end of the spring meeting in year two. However, this recommendation may be postponed if the committee feels that the student is not yet ready, in which case the committee will detail what deficiencies need to be remedied and when the next meeting will be held.

- The committee will determine when all experiments necessary for writing the dissertation have been completed so that the student may commence the writing process.

- Committee members should thoroughly review the dissertation and provide written comments.

- Committee members should attend the thesis talk.

- Most non-advisor committee members serve as readers of the final version of the dissertation and submit a Reader's Report to the Graduate School.

- Committee members should be willing to provide letters of reference for jobs and funding.

Director of Graduate Studies

As described more fully in the graduate handbook, the DGS oversees the overall academic program. Responsibilities related to advising include the following:

- The DGS approves the student's course schedules, thesis advisor selection, annual thesis committee forms, qualifying exam form, and departmental recommendation forms for admission to candidacy and for degree conferral.

- The DGS tracks overall academic progress and meets with the student in the event that academic milestones are not being met.

- At the student's request, the DGS will meet with the student to help resolve conflicts with the thesis advisor and/or with thesis committee members and may also provide academic and career guidance. A student may feel that they need to switch to a new thesis advisor (due to faculty departure from Yale, change in student's research interests, irreconcilable conflicts with the advisor, etc.). In such instances, the student should consult with the Director of Graduate Studies early on to discuss the situation, to firm up a course of action, and, if appropriate, to navigate the change.

- As appropriate, the DGS will direct the student to other resources such as GSAS deans, the Title IX office, the Office of Institutional Equity and Access, Student Accessibility Services, and Yale Heath. Note that while the DGS will maintain as much confidentiality as possible, all faculty are mandatory reporters for allegations of sexual misconduct.