

GRADUATE STUDENT ADVISING STATEMENT

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I am providing you with this statement of advising philosophy to enhance communication and transparency in our working relationship. It is intended to supplement our ongoing interactions and informal discussions and not to stand as a set of rigid requirements. I recognize that there is individual variability among graduate students in their backgrounds, aspirations, talents, progress, and accomplishments. My goal is to work with you to maximize your individual strengths and to help you develop the skills to succeed in your career. I am happy to discuss with you any or all of the items in the list below. This is a working document, and will be updated through feedback and accumulated experiences. It should be noted that nothing in this advising statement supersedes department or university rules and regulations.

Note: This statement was adapted from a statement of adviser philosophy distributed by Scott Lanyon, then adapted by Gordon Legge, and again by Moin Syed, all from the University of Minnesota. Anyone is free to borrow from this document as they wish, so long as they provide attribution to Syed, Scott, and Gordon.

Guiding Philosophy and 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 also recognize that career goals change through graduate school. My default advising model is to ensure you are getting experiences in all aspects of training (research, teaching, and communication/outreach, as appropriate) so that you have the tools to pursue different options after you graduate from Lehigh. I will initiate discussions about your career occasionally throughout your time here, but you should feel welcome to bring up questions or concerns about your career goals and orienting your current activities towards those goals whenever you wish.

Be aware that the graduate program in physics at Lehigh is specifically designed to prepare you for a career as a scientist. That can involve a position in a research university, at a national lab or other facility, or at a for-profit company. Closely related careers can include more teaching, such as a career at a 4-year college, regional public university, community college, or high school. It is also true that many people graduate with a physics PhD and embark on a career in which physics and the topics we cover here are not a key part of the job, but where the skills learned here are valuable. Those skills can include problem solving, defining research questions, computer programming, technical writing or communication, and many others. I will support you in whatever career path you choose, whether it is academic or not. But to the extent that your career path diverges from scientific research, teaching, or academia, I will be less able to provide

guidance and training. I will do my best to help my advisees obtain the experiences and skills needed to pursue their career goals.

Diversity

I work with students who come from a diverse range of race, ethnicity, socioeconomic status, gender, sexuality, immigrant generation status, nationality, religion, and worldview, among other dimensions of diversity. As an advisor I will strive to understand and respect your position and perspectives. If you find that I am not acting and communicating respectfully towards you or anyone else in our workplace, I encourage you to let me know. If you are not comfortable bringing up such concerns with me directly, both our department associate chair and chair are available to talk to, and they have the authority to convey concerns from students to faculty.

Personal Life

I expect my advisees to have a personal life outside the department, and to take breaks from working when needed. Everyone is equally entitled to have time away from me and the work that we do, whether you have a partner, children, or any arrangement in life. However, it is also the case that graduate school is intense, when there are many professional demands on your time. Those include classes, TA assignments, project deadlines, conferences, group meetings, committee meetings, department functions, and other activities. Part of your responsibility is to figure out how to balance your professional obligations with having a personal life. If you feel that any of the demands I am making on your time are detrimental to your ability to maintain that balance, please come talk to me and we can explore ways to accommodate all needs.

Mental Health

Graduate School is an exceedingly stressful time. Rates of depression and anxiety are significantly higher among graduate students than in the general population of people the same age. Along with maintaining a personal life and preserving a work/life balance that sustains you, taking advantage of mental health services is a key component to managing your mental balance. I urge my advisees to seek counselling and therapy when needed, and I will work with my advisees to structure work schedules around those needs. I view the use of mental health services as a key element in professional success.

Nature of the Student/Advisor Relationship

In some ways, the student/advisor relationship begins long before the two ever meet, and extends long after the student graduates. That is because the reputation of a student's advisor, which is built from the beginning of the advisor's career, affects the path of the student's career, in the form of scientific guidance, collaborative connections, and reputational impact via letters of recommendation. Furthermore, the student's accomplishments well after graduation reflect on the training provided by the advisor. That means that I am invested in your success.

Expectation for Advisees

The sections below describe some of my expectations for how my advisees conduct themselves and navigate graduate school on a day-to-day basis. Additionally, there are certain things that advisees are expected to do as they pass through the graduate program.

- Contact me if you need guidance.
- Provide regular updates on your progress.
- Study for and pass the qualifier exams.
- Form your dissertation committee. I can consult with you on that and provide advice.
- Schedule committee meetings at least once a year.

Most of all, it is essential to realize that advisees have the primary responsibility for the successful completion of their degree.

Conduct

Schedule and Time Management. I do not require that my students adhere closely to a particular schedule. As long as students complete tasks on time, the hours that you work are yours to define. However, I do expect students to be at work, in the department, for at least several hours between 9am to 5pm each week day, to make communication and meetings more efficient. I also encourage all students to attempt to maintain a regular schedule, which I believe is beneficial to your mental health.

Scheduling our time is hard enough with multiple activities and other obligations. I require all my graduate advisees to use an online calendar system that syncs with Google Calendar so that we can more easily coordinate our schedules.

There are times during graduate school where you will have to put in significantly more hours than a 40-hour workweek. Those will often be related to deadlines for paper publications, conference presentations, or committee meetings. They may require that you work in evenings, or over weekends. Those crunch times of extreme hours of work should be the exception, not the norm.

Students are allowed to take vacations. I do not set a specific amount of time on that, but it is common to take off federal holidays or university holidays. It is also fine to schedule a vacation of one or more weeks during the year. As long as you coordinate the timing of the vacation with me and ensure that your absence does not impact the work of anyone else in the department, that is fine. If you are TAing during a time when you expect to be absent, it is your responsibility to work out with the course instructor how your responsibilities will be covered in your absence. Planning with another TA to cover your work is helpful, but you must still notify and receive permission from the course instructor for those arrangements.

Relationships with other advisees. Graduate students learn the most from other students and/or postdocs. Therefore, I expect my advisees to develop a strong professional relationship with other people in our group and in the graduate program generally. This relationship should be supportive, not competitive. Early career students should seek out the advice of later career

students and postdocs. In turn, late career students and postdocs should be generous in providing advice.

Ethics. Students should familiarize themselves with, and abide by, the Lehigh University "Code of Conduct": <https://studentaffairs.lehigh.edu/content/code-conduct>

Meetings and Communication

Meetings. I expect my advisees to attend all scheduled individual and group meetings unless you are traveling or have some other unavoidable conflict. Please notify me as soon as possible if you cannot attend any scheduled meeting. Small changes in times for individual meetings are common.

Communication. I am available by email or face-to-face in my office. The office phone is not a reliable way to reach me. You may contact me on my cell phone via voice or text if there is an emergency. Additionally, my email response time may be slow because of competing demands on my time. I expect all students to be in communication by email on a regular basis. That typically means during daylight hours, but there can be times during holidays or weekends when deadlines are looming when we will have to continue working. I will do my best to let you know ahead of time if I foresee such a situation.

Letters of Recommendation. Recommendation letters are common in graduate school. For letters associated with one-time applications, advisees should email or discuss with me about the need for the letter at least two weeks before the letter is due, and send a reminder email a few days prior to a deadline.

For job or postdoc applications, I ask students to create a shared online list of all applications, including the name of the institutions, the name of the department, unit, or program, the due date for the letter, and the method for letter delivery, whether an online submission site, an email address, or to expect an email notification.

Independence

Although we will have several points of contact during the week, I expect my advisees to work without daily input or guidance from me. My general approach is for you to "figure it out" on your own, but contact me for support if you are stuck. Indeed, I am available for consultation, but you are expected to use your 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 accustomed to working independently but by the time they leave the university I expect them to be able to function as independent researchers and teachers.

This means that as you become a more senior students, I will expect more of you. By the time you are a senior graduate student, you will be initiating research questions and means of

investigation by yourself, managing communications with colleagues and collaborators independently, and making decision about how to prioritize your tasks.

Switching Advisors

Although students and advisors match up typically after the first year of graduate school, changing advisors is permitted for personal or professional reasons. However, such a change must be mutually agreeable to all parties: student, original advisor, and new advisor. Ideally, a change would occur relatively early in a student's graduate career (by the end of the second year), but this need not be the case.

Publications and Authorship

Publishing is essential for most career paths followed by my advisees. I expect my advisees to work on manuscripts for publication continuously from the beginning of their graduate school career. By the time they graduate I expect my advisees to have multiple publications in the pipeline (published, in press, in review, in preparation). Ideally, you would have three first-authored papers plus an equivalent or larger number co-authored papers by the time you graduate. This is aspirational, and not always achieved, but doing so would make you competitive for whatever job you were interested in (assuming the papers are high quality, which is expected).

Authorship. Resolving authorship arrangements early is essential if we are to maintain positive relationships with our colleagues. 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 or editing the manuscript), then I expect to be listed as an author. I prefer to decide roles and authorship early in the collaboration on the project. This decision can be altered by mutual agreement at a later date if roles have changed. Usually, the first author has played the lead role in the project execution and will take the lead in writing the manuscript and overseeing the revision process.

My policy is that for all papers representing your core work as a graduate student, you will be the lead author. Early in your graduate career, I might take a significant role in drafting and structuring the paper. By the time you graduate, you should be capable of writing a scientific paper completely on your own.

Professional Meetings. Developing a professional network is essential, regardless of career path. Therefore, I expect all my advisees to attend national and international meetings and to report on their research at those meetings. Ideally, you would attend two conferences per year, pending available funds, but minimally you should attend one per year (there are typically sufficient funds available to support this). I am happy to chat with you about how to strategize your conference attendance.

Funding

Graduate Student Tuition and Stipends. Between myself and the department, you are assured of funding for five years. The nature of that funding (TA, RA, Fellowship) is often unpredictable but there will be funding.

Research Funding. I will ensure that you will have funding to conduct your research. As part of that process, I may require you to participate in writing grant proposals, or applications for travel or conference funding.

Dissertation

I am of the opinion that a dissertation is an obsolete requirement for a PhD in astrophysics. It is a relic from a time before the scientific community and educational infrastructure enabled graduate students to do professional-quality research and get it published. Almost no one reads actual dissertations in our field. Peer-reviewed publications are the core of science, and a PhD should indicate that a student is capable of doing just that. Therefore, I expect that my students' research papers, whether published or in review or preparation, will constitute the bulk of a dissertation. It will be necessary for students to spend roughly several weeks to a month at the end of graduate school preparing an introduction and some connecting language to accommodate the expectations of our institution for the dissertation document, as well as meeting the formatting requirements. I apologize to my students for the waste of their time that represents.

Coursework and Research Background

I don't have any standard course requirements beyond those of the Physics 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). I do, however, expect all students to be well versed in python programming and working in the Unix/Linux environment, and to be able to use tools like LaTeX.

Scientific Literature. Regardless of career path, a current knowledge of the literature is essential. Therefore, I expect my advisees to spend multiple hours each week reading relevant literature that is both directly related to their research interests and of broad relevance to the field.

I will provide students with some core or classic papers in their research areas of interest, but it is the responsibility of student to explore further in the literature. By the time students start their third year of graduate school, they should review daily posting of articles on the arxiv in at least one topic area of astrophysics, and be familiar with the arxiv and ADS to track down necessary papers.