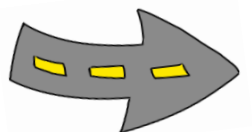


Opportunity Fellowship Recipient Roadmap to Grad School

Mentorship:

- Academic advisor supporting student before finding a research advisor
- Grad student peer mentoring
- Weekly academic tutoring from senior grad student or faculty member

Upon starting first year, incoming grad students will be paired with an academic advisor, a faculty member oftentimes in their preferred field who will help students transition into grad school. These academic advisors can help students with anything ranging from suggestions on how to manage classes to who in the department may be a good research advisor match. Grad students are expected to meet ~6 times with their academic advisor in fall quarter to ensure everything starts off well, and then once a month following, though this varies based on the students' preferences and needs. In addition to academic advisors, grad students can sign up for grad student run mentorship programs that will pair them with older grad students in their field. This is targeted towards first year students, but is open to any student seeking mentorship. Surveys will be sent out to match mentees with mentors who have similar interests and mentorship goals. The program hosts occasional events to help get students to gel socially. Furthermore, an Opportunity fellowship student will be provided with weekly academic tutoring from senior grad students or faculty to help support them through the duration of their taking classes.



Classes:

- Student-led summer preparatory crash course
- Approximately 2 courses a quarter up through second year

Grad students come in with a wide range of physics backgrounds so course difficulty varies from person to person, as well as by which professor is teaching the class. With this in mind, a large portion of first year will be consumed by classes, homework, teaching and eventually studying for the prelim exam. As mentioned in the teaching section below, students have a reduced teaching workload for the fall and winter quarter of first year as they acclimate to the rigor of classes (time expectation). There are a set of core courses that all students must take, but then eventually branch off into field specific tracks by the end of first year into second year. By second year the rigor begins to decrease and by third year and beyond most students take very few to no classes, with the focus shifting to research. Additionally, special topic courses (250 courses) are offered every so often, oftentimes focused on field-specific and research-oriented material. An opportunity fellowship student may take two classes per quarter during first year and most of second year, with undergrad courses an option if a student feels that they need further preparation. Furthermore, students will be offered the opportunity to take part in a student-led preparatory study over the summer before they start the graduate program.

Prelim Exam:

- No consequences Prelim attempt at start of first year
- Student-run comprehensive online study guide and past exam solutions for preparation

The prelim is a 10-question exam on undergraduate-level material given over the course of two days and administered twice a year. Upon beginning grad school, first year students will have the opportunity to take the prelim the week before classes start. Some students study over the summer in an attempt to pass, some show up to the exam to look at it and try some problems, and some don't even try. The expectation is that most students will pass the exam during their first year, though some take a few tries and may need to retake it in their second year. There is a website constructed by UC Davis physics grad students containing solved prelim solutions from previous years as well as comprehensive study guides to help students prepare.



Research:

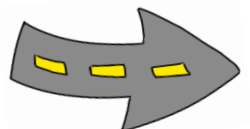
- Start considering groups first year and try to find an advisor by second year

Finding a research advisor varies from person to person. Some students come to grad school knowing who they want to work with while others aren't even sure of what field they're interested in. Most students will spend first year focusing on classes, but are encouraged to reach out to an advisor or begin attending group meetings of groups that catch the students to see if it's a good match. With this in mind, it's common for students to not secure a research advisor until second year. Additionally, occasionally students from various years will find and work for an advisor, but switch after a duration. In general, as students continue through the years, class work will decrease while research will become prioritized, with the first major shift being after second year when the majority of required classes are completed. The next milestone for students is the qual, which is an oral exam about existing/proposed future research projects and is usually completed by 3rd year, or 4th year the latest. Lastly, the cherry to top off grad school research is a thesis, but there is no thesis defense, but rather just a thesis committee to look over and approve the final thesis.

Teaching:

- 10 hours/week of teaching in fall and winter of first year
- 10 hours/week of teaching for Opportunity Fellowship recipients in spring of first year and possibly second year
- Financial support throughout graduate school through TA, GSR, and fellowship

First year students are formally assigned a 50% (~20 hours/week) Teaching Assistant (TA) appointment in the fall, but this is split into what is normally a 25% TA position with another 25% position devoted to TA training. First year students generally teach the 7 series, an introductory set of physics classes designed for non-physics majors with a flipped classroom structure. Many students find themselves without much public speaking or teaching experience and are nervous about running discussion labs (DLs), 2.5-hour interactive lab sections. With that in mind, the TA training and decreased classroom load helps ease grad students into the swing of teaching. The training is in the form of a course (PHY 371) specifically designed to cover teaching practices and techniques. First-year students teach two DLs per week in the fall term, as opposed to four for a normal 50% TA. In winter first-year students have 25% TA positions with fellowship support for the remainder of their stipend, and in spring they have normal 50% TAs. Opportunity Fellowship students can expect a 25% TA load throughout at least the first year of the graduate program, continuing into the second year if it makes a difference for the student's progress. TA funding may be replaced with GSR funding upon finding a research advisor, but in both cases, the remaining half will be covered by the Opportunity Fellowship.



Academic Enrichment:

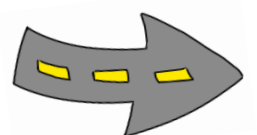
- Weekly colloquia
- Weekly sub-field specific seminars

The physics department hosts weekly colloquia with an invited speaker to showcase interesting work in various fields. First year students are required to attend colloquia with the idea that it will broaden perspective and help students figure out what they are interested in. The requirement ends after the first year, but students remain very welcome to attend. Colloquium also hosts a pre-colloquium tea in which students, faculty, and the speaker can mix and mingle over tea, coffee, and snacks. In addition to the general colloquium, there are subfield specific seminars speckled around the department that grad students are encouraged to go to in order to better understand opportunities and research in their subfield of choice. Speakers will include senior grad students, faculty, and invited speakers from other institutions.

Grad Student Organizations:

- Graduate Organization of Physics & Astronomy Students (GradOPS)
- Diversity and Inclusion in Physics & Astronomy (DIP)

UCD Physics & Astronomy has two main graduate student organizations, GradOPS and DIP that are focused on improving grad student life and diversity and inclusion efforts in the department respectively. GradOPS acts as an advocate for graduate student concerns like the structure of courses, grad student mentorship, department interconnectivity among many things, and has many members active on department committees. DIP focuses on diversity equity and inclusion (DEI) efforts with their hands in many things ranging from imposter phenomena workshops to department-wide climate surveys. Grad students are free to join GradOPS and DIP meetings to actively participate, or for a more hands off approach there are department open forums that students can attend to bring up various concerns with the department administration.



Social Events:

- Weekly outings downtown
- Department sports and extracurriculars
- On campus clubs/events

Grad students manage and maintain a weekly grad student only coffee hour with our own in-house barista. Coffee Hour has become a social respite from work stress, a place where students can come and talk to grad students from all cohorts about things ranging from social interests, research, classes, planning weekend outings and more. In addition to Coffee Hour, there exists a pre-colloquium tea where students and faculty go to grab snacks and chat before the colloquium, overall a good place to interact with peers and faculty alike. Lastly, there are a good number of extracurricular social activities, for example there are usually a good amount of grad students who go out each week for a casual post work drink, a physics department softball team, a group for going climbing and bouldering as well as many other things.