Graduate Student Mentorship Resources

The CHIPS act, section 7008(a) requires that all proposals submitted to NSF after May 20, 2024 that include support for graduate students must include a mentoring plan (1 page), described in NSF PAPPG 24-1. All annual and final reports of projects with substantial support for graduate students (translates into ~½ semester at 20h/week) must certify that students had an individual development plan (IDP). Note that the same mentoring plan can be developed for graduate students and postdocs.

Several publications from the Council of Graduate Schools, the National Academies (e.g., *Graduate STEM Education for the 21st century,* 2018), and NSF, have noted the importance and value of creating solid mentorship plans for graduate students, as part of a healthy and productive research environment and promoting successful student outcomes.

This document, developed by the Graduate School and the Research Office, is intended to support principal investigators in crafting effective mentorship plans, and directs faculty and students to take advantage of the portfolio of mentorship activities available for consideration. The first section, which is intended to be submitted with a proposal, is a description of mentorship at OSU. The second section contains three separate tools designed to support faculty and students in the development of mentorship plans.

[example mentorship plan for submission with a proposal. Delete the highlighted parenthetical references.]

Mentorship plan description

Oregon State University is committed to promoting graduate student success and has implemented key recommendations of the National Academies' report (NASEM, 2018).

Faculty. OSU requires all new graduate faculty approved to advise thesis-based graduate students to participate in mentorship training. At present, this training is based on the curriculum developed by the Center for Improvement of Mentored Experiences in Research (CIMER) at the University of Wisconsin. This training accelerates the process of becoming an effective mentor by introducing a mentorship framework and providing opportunities to experiment with different methods of mentoring. Almost half of OSU faculty have completed at least one of the workshops. Faculty who complete all three workshops receive digital badges identifying them as trained mentors. If funded, all faculty participating in this project, whether advising graduate students directly or not, will complete the CIMER training at OSU during year 1. In addition to completing the CIMER training, faculty are encouraged to articulate their expectations to their students [*see Tool 2*]. The expectations, which include concrete deliverables and more practical items such as frequency of communication, will be clearly presented and discussed early in the mentoring relationship.

***Students and postdocs*.** At the inception of the project, each supported graduate student will be guided in creating an individual development plan and a mentorship team [*see Tools 1 and 3*]. Inspired by the NASEM (2018) report, OSU created Grad Advantage, a framework of professional competencies along with an accompanying portfolio of learning and training opportunities to develop transferable skills, underpinned by a self-assessment. The trainee logs in and conducts a guided self-assessment, which focuses their attention on areas for development over the next year, and then provides guidance on accessing relevant training opportunities ranging from self-directed video tutorials to credit-bearing courses. These training opportunities can be included in the IDP.

The core competencies supported by Grad Advantage are Justice, Equity, Diversity and Inclusion; Mentoring, Facilitation and Teaching; Writing and Communication; Leadership, Management and Professional Development; and Interpretation and Use of Research.

The PI will annually ensure that each graduate student receiving support on the project creates and updates an IDP, and will offer suitable opportunities for graduate students to hone skills within the project (e.g, leading a journal club or team meeting, teaching a programming technique).

Tool #1

Graduate Student Individual Development Plan (to be filled out by the graduate student and mentor(s) in collaboration)

Mentoring Category	**Suggested Activities**	**Expectations of the Graduate Student**	**Responsibilities of the Mentor**
On-boarding	The faculty mentor is encouraged to develop a mentor-mentee agreements intended to diminish a misalignment of expectations. It is advised that this document be revised at regular intervals to reflect the changing needs of the graduate student. Mentorship agreement templates can be found at https://gradschool.oregonstate.edu/faculty/graduate-mentoring		
Career counseling	Graduate student(s) will be directed to use the OSU Grad Advantage self-assessment tool to identify specific Resources for Career Success, the Career Development Center, and course offering such as GRAD 517 Graduate Career Building.		
Training in preparation of proposals, publications and presentations	Training related to the development of grant proposals, publications and presentations are typically provided under the direction of the faculty mentor and in collaboration with researchers at OSU as appropriate. Additionally, activities and resources such as the Graduate Writing Center referenced in OSU Grad Advantage are available.		
Guidance on ways to improve teaching and mentoring skills	Graduate students are encouraged to participate in research presentations and many graduate students are offered the opportunity to mentor undergraduate students. Graduate students may also take advantage of materials and trainings related to teaching and mentoring through for-credit course offerings in the Graduate Certificate in College and University Teaching (GCCUT) curriculum and through the Center for Teaching and Learning (CTL) workshops and consultations.		

Guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas	Guidance will be provided on a regular basis in the context of the research work. All new faculty mentors of graduate students are required to complete the Entering Mentoring training. Graduate student(s) will be encouraged to access opportunities listed under OSU's JEDI program		
Training in responsible professional practices	Graduate students are encouraged to complete Responsible Conduct of Research Training (beyond CITI training) through their academic program's specific training, through enrollment in GRAD 520 Responsible Conduct of Research, and/or another approved and identified professional experiences.		

Tool #2

Articulating Faculty Expectations

Faculty are encouraged to carefully consider the questions below to align expectations between the mentor and mentees. Once complete, a copy should be made available to your graduate student mentee(s). Faculty are welcome to edit the sections as needed.

Set and communicate your expectations

- What are the specific expectations for your mentee, and how will you communicate these expectations for the mentoring relationship?
- How will you clearly communicate your mentoring philosophy, working environment and culture, policies and other important considerations to a mentee working with you and your team?

Convey your responsibilities as a mentor

- What can a mentee expect from you throughout the mentoring relationship?
- Can they expect timely feedback on their work, regularly scheduled meetings, assistance in making connections/networking or notifications about relevant opportunities?

Tailor your plan

- How will your plan be responsive to your mentee's needs, interests and goals?
- How does the plan recognize that there are multiple pathways to success and ensure the plan is tailored to what success would look like for the mentee?

Promote a supportive work environment

- What steps can you take to promote a work culture where mentees feel valued and supported and to foster a sense of belonging as an authentic member of the team?
- How will you create an environment where mentees feel comfortable taking calculated risks?
- How will mentees be empowered to learn from mistakes?
- How will conflict be managed and communicated, particularly among trainees with different personal and cultural identities?
- How will the contributions of all team members be recognized?

Strengthen a broader ecosystem of support

- How will you identify opportunities for your mentee that lie outside of your strengths as an individual mentor?
- Can you form mentoring teams that can advise on different disciplines, career or life paths, connect postdocs/graduate students excluded due to their ethnicity or race with mentors that have similar identities, further develop your knowledge and skills as a mentor?

Assess progress

- How will progress towards goals and mentorship quality be evaluated?
- How will you plan to co-create, revisit and revise your mentoring plan over time with your mentee?

Tool #3

Creating a mentor map

Numerous resources are available to assist budding scientists in seeking mentors. Below is a sample. The key to note is that mentorship goes beyond the role of the academic advisor, possibly including other professional skills, supporting identity, or career preparation. A good starting point is for the mentee to ask, what do I want to know more about?