

NSF Mentoring Plan Guide

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The NSF mentoring plan is a supplementary document to be included with proposals funding doctoral students or post-doctoral staff. To ensure the most recent guidance is being followed, check NSF's PAPPG. The information below is based on the version found here: <https://www.nsf.gov/policies/pappg/24-1/ch-2-proposal-preparation#ch2D2i-i>

The PAPPG states: "In no more than one page, the mentoring plan must describe the mentoring that will be provided to all postdoctoral scholars or graduate students supported by the project, regardless of whether they reside at the submitting organization, any subrecipient organization, or at any organization participating in a simultaneously submitted collaborative proposal. Please note that separate plans are not required for postdoctoral scholars or graduate students. The plan may, however, specify how different components of the mentoring program will be enacted for the two types of researchers."

And further, "Examples of mentoring activities include but are not limited to: career counseling; training in preparation of proposals, publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices."

Online searches for 'NSF mentoring plan example' will surface many samples. However, your plan should be customized to the proposed research and draw on the resources mentioned below. Reviewing these resources may help faculty plan for their own development as well.

Penn State Research Ethics Training

Penn State's Office of Research Protections includes an Education and Outreach unit that offers a variety of trainings and materials where graduate students and post docs can develop ethical research practices (<https://researchsupport.psu.edu/orp/education/>). In addition to the required SARI (Scholarship and Research Integrity) training, the office offers a variety of opportunities for responsible conduct of research training (<https://researchsupport.psu.edu/orp/education/responsible-conduct-of-research-rcr/>).

The Penn State Libraries also offers training on data management and sharing (<https://libraries.psu.edu/research/research-data-services>). These resources can help graduate students and postdoctoral scholars learn about federal agency policies as well as

processes for planning and implementing compliant data management and sharing strategies.

Developing Teaching Skills

The College of IST requires all graduate students serving as teaching assistants to take IST 602: Supervised Experience in College Teaching. The one-credit course is taught by the Faculty Lead for Teaching and Learning, a professional with a PhD in curriculum and instruction. This small, intensive course follows students through their instructional activities and provides opportunities for individualized guidance and advice on instruction and classroom management issues.

The College of IST also provides instructional design services for faculty and graduate students to enhance their teaching efforts. While their primary mission is to support online courses, our designers are happy to help new instructors.

In addition to college resources, the university also offers the following:

Penn State's Fox Graduate School provides or links to a variety of resources for graduate student and post docs to develop their teaching abilities. See <https://gradschool.psu.edu/engagement/professional-development/teaching-development>. Among them are two programs offering certifications in teaching. The first is an online teaching certification and the second is a certification offered through the nationwide Center of the Integration of Research, Teaching, and Learning (CIRTL) (<https://gradschool.psu.edu/engagement/professional-development/penn-state-cirtl-teaching-certificate>). The program allows students and postdoc to achieve certifications at three levels – Associate, Practitioner, and Scholar.

Other resources suggested by Fox include the Schreyer Institute and TLT.

Penn State's Schreyer Institute for Teaching Excellence offers a plethora of opportunities for graduate student and postdoctoral scholars to hone their teaching skills.

(<https://www.schreyerinstitute.psu.edu/>)

Penn State Libraries offers a variety of teaching with technology (TLT) trainings, events, and services. These programs can help graduate students and post-docs develop into effective instructors. Services are presented here: <https://tlt.psu.edu/services/>

Career Development

The College of IST houses Career Services and Alumni Relations units that can help graduate students seeking employment in industry. These units provide opportunities for graduate student to network with alumni in-person on campus and online. They offer a

variety of workshops through the Graduate Students in IST (GIST) organization, ranging from AI-resilient resume preparation to professional head shot sessions.

At the university level, the Fox Graduate School also provides a variety of professional preparation services and activities (see <https://gradschool.psu.edu/engagement/professional-development>). Examples include the Graduate (Research) Exhibition, participation in the nationwide Three Minute Thesis competition, and the Professional Attire Closet. These resources promote a professional demeanor and developing polished presentation skills.

Developing Mentoring Skills

Penn State offers online training for developing mentoring skills which allows graduate students and post docs to engage in training modes appropriate for their needs (<https://mentoring.psu.edu/getting-started/>). The resources support developing as well as assessing mentoring skills.

The Fox Graduate School offers a list of tips related to mentoring specific to graduate students (<https://gradschool.psu.edu/student-support/advising-and-mentoring-tips-for-students>).