

Graduate Student Professional Development Pilot Program

Graduate students in the MIT Physics Department receive extensive research training through research assistantships and PhD thesis research. To pursue a career in physics and related fields, though, graduate students need to acquire a broader range of professional skills, including those related to leadership, teaching, advising, service, and advocacy.

While one goal of professional development is to prepare graduate students for a post-PhD career, there is an equally important goal of exposing students to new topics. In this spirit, students are encouraged (though not required) to choose complementary professional development activities that provide them with new experiences.

Professional Development can and does happen in many forms and is frequently not tied to coursework. Many students already participate in activities internal and external to the Institute that provide substantive professional development experiences or training.

Throughout their PhD program, students should complete a total of **15 units** in three types of professional development activities.

1. **Classroom Training** — Minimum 6 units. This corresponds to a half-semester subject, which is the minimum amount of time needed to benefit from classroom-style training. These units may come from one or more subjects, or certificate programs.
2. **Practical Mentoring/Advising Training** — Minimum 3 units. Practical training spans a wide range of activities, including mentoring undergraduate students. This category requires overall fewer units because many important practical training activities require only a modest time commitment. This category provides professional development skills in advising, mentoring, and teaching.
3. **Committee/Service Training** — Minimum 1 unit. This category provides professional development skills in leadership, service and advocacy.

Note: “Unit” follows the MIT standard of 1 hour per week over a 15 week period. Committee membership should be taken as 1 unit for a 1 year service commitment, or for 1 semester for committees of limited duration, e.g. graduate admissions or faculty searches.

In the first year of the program, the requirement will be satisfied by the Doctoral Seminar in Physics, 8.398. After the first year, the student should create a plan each semester with their academic advisor to satisfying the requirement. If there will be activities that semester, the student should register for **8.394, Professional Development in Physics**. They will be required to upload a plan to the Canvas site at the start of the semester, and a reflection at the end of the semester. In this way, completion of the requirement is reflected on a student’s transcript.

APPENDIX

1. Overall goal and learning objectives of an MIT doctoral PD requirement:

The overall goal of a doctoral PD requirement is to instill in students the lifelong desire to engage in professional and personal development through experiences they design during their PhD, with guidance.

The student learning objectives for such a requirement are:

1. The student establishes a habit of self-assessing, learning, and honing or improving (non-technical) professional and personal skills.
2. The student has begun to explore career paths of interest to them and considered the alignment of their doctoral training with these paths.
3. The student effectively communicates their work and is capable of tailoring to a non-specialist audience, including its potential positive and negative impacts.
4. The student appreciates a variety of impacts that mentorship can play on their professional development and has begun to think strategically about their own mentoring and mentoring network.
5. The student recognizes the importance of knowing their core values and is using them for professional and personal decision making.
6. The student appreciates how people's different values, interests, and skills can influence their behavior and response in professional settings.
7. The student appreciates how leadership, collaboration, and interpersonal skills enable one to work productively in a range of professional situations.

2. Examples of Classroom Activities

Leadership Skills

(3 units) LEAPS: 8.S396: Part I - Professional Strategies and Skills

(3 units) LEAPS: 8.S397: Part II - Leadership Training

(9 units) 6.9280[J]: Leading Creative Teams

Social Responsibility

(6 units) 10.01: Ethics for Engineers: Artificial Intelligence

(6 units) 22.16: Nuclear Technology and Society

3. Examples of Mentoring/Advising Activities

Teaching Skills

(3 units) Kaufmann Teaching Certificate Program

(3 units) Teaching Development Fellowship Network

Mentoring Skills

(3 units) 8.998: Undergraduate Mentoring

Internship/practical skills

(12 units) External research internship at a private company, National Laboratory, etc. **Please note that an internship used to satisfy a departmental requirement (i.e. Breadth subject) may not also be used to satisfy the Professional Development requirement.**

4. Examples of Committee/Service (CS-P) Activities

Leadership role or major responsibility in student organization:

(1 unit per year) Graduate Womxn in Physics, Physics Graduate Student Council, etc

Participating in mentoring program:

(1 unit per year) Physics Graduate Application Assistance Program (PhysGAAP)

(1 unit per year) PhysREFS (Resources for Easing Friction and Stress)

(3 units per summer) MSRP Mentoring

(3 units per semester) 8.01–8.04 Mentoring Program

(1 unit per semester) TA pedagogy/instruction course

Participating in committees:

(1 unit per year) Service on an MIT Physics committee

Graduate Admissions Committee

Physics Values Committee

Faculty Search Committee

Education Committee

Colloquium Committee

(1 unit per year) Service on an MIT-wide committee

Committee on Graduate Programs

Faculty Policy Committee

(1 unit per year) Service on a national committee

APS, AAS, etc.