Teacher Prep Track

Overview

The Teacher Preparation Track is aimed at those who plan to teach physics, math or other technical fields in secondary school. It is also a good choice for students aimed at a career in science journalism, patent law, science advisor to politicians, or other fields involving the communication of physics to a broader audience. The distinguishing feature of the Teacher Preparation Track is the Physics 407-8-9 sequence, which is aimed at giving you the conceptual understanding and experience required to explain physics without college-level mathematics. The UW has a world-famous Physics Education Research Group, and students in this track have the opportunity to benefit from and contribute to this effort. Students in other degree options who would like to improve their physics communications skills are welcome in the 407-8-9 classes.

Requirements (94-98 credits)

NOTE: A single course may meet at most ONE physics-specific degree requirement.

Core Requirements (55-56 cr). (See here)

Core Physics (10-11 cr)
- **Phys 226** (3) Particles and Symmetries
- **Phys 324** (4) Quantum Mechanics II
- ONE course selected from:
  - **Phys 323** (4) Electromagnetism III
  - **Phys 328** (3) Statistical Mechanics
  - **Phys 329** (3) Classical Mechanics

Advanced Math (7-9 cr)
- **Phys 228** (4) Mathematical Physics II
- ONE courses (in addition to the core Math Menu requirement) selected from:
  - **Math 307** (3) OR **AMath 351** (3) Ordinary Differential Equations
  - **Math 308** (3) OR **AMath 352** (3) Linear Algebra
  - **Math 309** (3) OR **AMath 353** (3) Partial Differential Equations
  - **Math 324** (3) Vector Calculus
  - **AMath 401** (4) Vector Calculus and Complex Waves
  - **Math *334, *335, *336** Honors Advanced Math

Advanced Laboratory (3-5 cr)
- ONE lab courses selected from:
  - **Phys 331** (3) Optics Lab
  - **Phys 335** (3) Electronic Lab II
  - **Chem 464** (3) OR **Phys 434** (3) Computers in Data Acquisition and Analysis
  - **Phys 431** (3) Modern Condensed Matter Physics Lab
  - **Phys 432** (3) Modern Atomic Physics Lab
  - **Phys 433** (3) Modern Nuclear and Particle Physics Lab
Astro 480 (5) OR Astro 481 (5) Astronomical Data Analysis (480) or Acquisition (481)

Physics by Inquiry (15 cr)
- Phys 407 (5) Physics by Inquiry I (mechanics)
- Phys 408 (5) Physics by Inquiry II (electromagnetism)
- Phys 409 (5) Physics by Inquiry III (waves, thermal and quantum physics)

Capstone
- 3 credits of teaching practicum and/or physics education research:
  - PHYS *401, 499

Students receiving credit for physics-related teaching or independent project work in another department may petition to have it meet the capstone requirement by writing a paper describing how they applied physics to their independent project. Please see the UFA for details and pre-approval.

NOTES
- * . Not currently coded into DARS. Please see the UFA (Prof. Olmstead) to allow this course to meet this requirement.
- § . Students taking advanced laboratories in other departments may petition to have them substitute for Astro 480.
- ** . Other courses may be accepted by petition to the UFA (Prof. Olmstead).

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