

Department of Physics

Course Catalog - Fall 2025

Department Overview:

The Physics Department offers courses in classical mechanics, electromagnetism, quantum mechanics, and laboratory techniques. Emphasis is on mathematical modeling, experimental methods, and computational physics.

Course Listings

Course Code: PHY 101

Course Title: General Physics I

Credits: 4

Description: Mechanics, kinematics, dynamics, and energy. Weekly labs on motion and forces.

Prerequisites: MATH 101 or concurrent enrollment

Instructor: Dr. Richard Feynman

Schedule: Mon/Wed/Fri 8:00 AM - 9:20 AM (Lab Fri)

Course Code: PHY 102

Course Title: General Physics II

Credits: 4

Description: Electricity, magnetism, and waves. Labs include circuits and optics.

Prerequisites: PHY 101

Instructor: Prof. James Clerk Maxwell

Schedule: Tue/Thu 9:30 AM - 10:50 AM (Lab Thu)

Course Code: PHY 210

Course Title: Classical Mechanics

Credits: 3

Description: Advanced mechanics, Lagrangian and Hamiltonian formulations, and problem-solving seminars.

Prerequisites: PHY 101 and MATH 201

Instructor: Dr. Emmy Noether

Schedule: Mon/Wed 1:00 PM - 2:15 PM

Course Code: PHY 230

Course Title: Electromagnetism

Credits: 3

Description: Electrostatics, magnetostatics, Maxwell's equations, and applications in engineering.

Prerequisites: PHY 102

Instructor: Prof. Oliver Heaviside

Schedule: Tue/Thu 11:00 AM - 12:15 PM

Course Code: PHY 300

Course Title: Quantum Mechanics I

Credits: 3

Description: Introduction to wave mechanics, Schrödinger equation, and atomic structure.

Prerequisites: MATH 201 and PHY 102

Instructor: Dr. Paul Dirac

Schedule: Wed/Fri 2:00 PM - 3:15 PM

Course Code: PHY 320

Course Title: Thermodynamics and Statistical Mechanics

Credits: 3

Description: Laws of thermodynamics, statistical ensembles, and applications in physics and chemistry.

Prerequisites: PHY 101 and MATH 102

Instructor: Prof. Ludwig Boltzmann

Schedule: Tue 3:00 PM - 5:45 PM (Workshop)

Course Code: PHY 350

Course Title: Experimental Physics Lab

Credits: 2

Description: Advanced laboratory techniques including instrumentation, data acquisition, and error analysis.

Prerequisites: PHY 102

Instructor: Lab Faculty

Schedule: Fri 9:00 AM - 11:50 AM (Lab)

Course Code: PHY 370

Course Title: Computational Physics

Credits: 3

Description: Numerical methods, simulations, and computational experiments for physical systems.

Prerequisites: MATH 360 or concurrent CS 240

Instructor: Prof. Steven Wolfram

Schedule: Mon 4:00 PM - 6:50 PM (Lab)

Course Code: PHY 410

Course Title: Solid State Physics

Credits: 3

Description: Crystal structures, band theory, and electronic properties of materials.

Prerequisites: PHY 300

Instructor: Dr. Walter Kohn

Schedule: Wed 10:00 AM - 12:50 PM (Seminar)

Course Code: PHY 480

Course Title: Undergraduate Research in Physics

Credits: 3

Description: Independent research project with faculty mentorship, culminating in a report and presentation.

Prerequisites: Permission of Instructor

Instructor: Research Faculty Team

Schedule: Variable - by arrangement