Physical Sciences

Physical Sciences 3

Electromagnetism, Circuits, Waves, Optics, and Imaging (122576)

Louis Deslauriers

Stephen Adams

2026 Spring (4 Credits) Schedule: TR 0900 AM - 1015 AM

Instructor Permissions: None Enrollment Cap: n/a

This course is an introduction to electromagnetism, waves, optics and sound. Topics covered include: electric and magnetic fields, electrical potential, circuits, simple digital circuits, wave propagation in various media, microscopy, sound and hearing. The course will draw upon a variety of applications to the biological sciences and will use real-world examples to illustrate many of the physical principles described. There are six required laboratory sessions, and a weekly asynchronous discussion section.

Course Notes:

This course is part of an integrated introduction to the physical sciences intended for students who plan to pursue a concentration in the life sciences and/or satisfy pre-medical requirements in Physics. May not ordinarily be taken for credit in addition to Physics 15b.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Undergraduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science

Physical Sciences 12A

Mechanics and Statistical Physics from an Analytic, Numerical and Experimental Perspective (109274)

Anna Wang-Holtzen

Gregorio Ponti

2026 Spring (4 Credits) Schedule: MWF 0900 AM - 1015 AM

Instructor Permissions: None Enrollment Cap: n/a

This is the first term of a two-semester introductory course in physics. The focus is on quantitative scientific reasoning, with the first term exploring Newtonian mechanics. Topics include kinematics, linear and rotational motion, forces, energy, momentum, collisions, gravitation, oscillations, and waves, with a brief introduction to statistical physics. Examples are drawn from across the physical sciences and engineering.

Students will gain competence in both analytic (pencil and paper) and computational tools (programming in Python) used by scientists to model simple physical systems and analyze experimental data, including problem solving, basic programming, measurement of physical quantities, and chi squared model testing and curve fitting.

The course is aimed at first year students who have an interest in pursuing a concentration in the sciences or engineering. The course includes lecture, laboratory, and discussion components.

Class Notes: Section times will be announced in the first week of the semester.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
Quantitative Reasoning with Data	Yes
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Undergraduate Students

Physical Sciences 70

Introduction to Digital Fabrication (215717)

Nathan Melenbrink

2026 Spring (4 Credits) Schedule: TR 0300 PM - 0415 PM

Instructor Permissions: Instructor Enrollment Cap: 30

An immersive introduction to rapid prototyping, fusing physics, design, computer science, engineering, and art. Students will learn to safely use software and hardware to fabricate programmable projects. Tools and topics will include programmable microcontrollers, 3D CAD/CAM, electronic circuit design, and wireless networking (Internet of Things). Additionally, students will learn operational principles for techniques such as laser cutting, 3D printing, and computer-controlled milling. The course will culminate with an individual final project of the student's own conception, integrating as many of the weekly topics as possible. The course emphasizes self-directed learning, and supports students in accessing resources to help advance the development of their unique projects. Applications may include personal fabrication, product prototyping, fine arts, and the creation of scientific research tools. Students will document work on each weekly topic in a personal website, thereby finishing the course with an online portfolio that not only illustrates their new skill sets, but also contributes to a collective repository of knowledge that serves as a foundation for continued learning.

Course website: https://tinyurl.com/tasr7b6

Related Sections: In addition to class times, students enroll in a lab section where they will interact with course staff for hands-on assignment work. The shop will also remain open to enrolled students at additional times throughout the week.

Course Notes:

PS70 can only be taken for a letter grade; no P/F option is offered.
Attendance is mandatory since safety training will occur during class

times. Class meetings involve hands-on trainings, workshops, lectures/discussions, and appearances by guest presenters on particular topics. Class will meet twice each week, in addition to a weekly mandatory lab section.

Additional Course Attributes:

Attribute	Value(s)
Waitlist Class	No
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Undergraduate Students
Waitlist Class	Yes
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics

Physics 15A

Introductory Mechanics and Relativity (111164)

Anna Klales

John Huth

Stephen Adams

2026 Spring (4 Credits) Schedule: TR 1200 PM - 0115 PM

Instructor Permissions: None Enrollment Cap: n/a

Physics 15a is an introduction to the topics of Newtonian mechanics and special relativity, but it is also an introduction to what it means to be a physicist—formulating theoretical models to describe the natural world and testing those models for consistency with data. Topics include: vectors; kinematics in three dimensions; Newton's laws; force, work, power; conservative forces, potential energy; momentum, collisions; rotational motion, angular momentum, torque; static equilibrium, simple harmonic motion, damped and driven oscillations; gravitation; fictitious forces; fluids; special relativity; experimental methods and tools including: basic programming, experimental design and data acquisition, model testing and error analysis; scientific communication.

Course Notes:

Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15a. Topics include experimental design, model testing, error analysis, basic programming, and oral presentations. PSI will meet weekly throughout the semester.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Undergraduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
Quantitative Reasoning with Data	Yes

Physics 15B

Introductory Electromagnetism (111896)

Carlos Arguelles Delgado

Amir Yacoby

2026 Spring (4 Credits) Schedule: TR 1200 PM - 0115 PM

Instructor Permissions: None Enrollment Cap: n/a

This course is an undergraduate-level course on electromagnetism. Topics include electrostatics, electric currents, magnetic field, electromagnetic induction, Maxwell's equations, electromagnetic radiation, magnetic fields in materials, and some basic notions in kinetic theory, entropy, temperature, and phase transition associated with electricity and magnetism.

Course Notes:

Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15b. The labs are designed to enhance your understanding of material presented in lectures. They also present applications of electricity and magnetism, as well as offering opportunities to build simple circuits and develop experience using measuring instruments, including oscilloscopes.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
Quantitative Reasoning with Data	Yes
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Undergraduate Students

Physics 15C

Wave Phenomena (124154)

Stefan Knirck

Xing Fan

Gregorio Ponti

2026 Spring (4 Credits) Schedule: MW 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

Forced oscillation and resonance; coupled oscillators and normal modes; Fourier series; Electromagnetic waves, radiation, longitudinal oscillations, sound; traveling waves; signals, wave packets and group velocity; two- and three-dimensional waves; polarization; geometrical and physical optics; interference and diffraction. Optional topics: Water waves, holography, x-ray crystallography, solitons, music, quantum mechanics, and waves in the early universe.

Course Notes:

Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15c. Topics include experimental design, model testing, error analysis, basic programming, oral presentations, and scientific writing. PSI will meet weekly throughout the semester.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science

Attribute	Value(s)
FAS: Course Level	Primarily for Undergraduate Students
Quantitative Reasoning with Data	Yes

Physics 90R

Supervised Research (111672)

Anna Klales

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Primarily for selected concentrators in Physics, or in Chemistry and Physics, who have obtained honor grades in Physics 15 and a number of intermediate-level courses. The student must be accepted by some member of the faculty doing research in the student's field of interest. The form of the research depends on the student's interest and experience, the nature of the particular field of physics, and facilities and support available. Students wishing to write a senior thesis can do so by arranging for a sponsor and enrolling in this course.

Course Notes:

A list of possible faculty sponsors and their fields is available in Lyman 238 and on the Physics Department Web page. Course enrollment forms may be obtained from Lyman 238.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Undergraduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 91R

Supervised Reading Course for Undergraduates (110569)

Anna Klales

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Open to selected concentrators in Physics, Chemistry and Physics, and other fields who wish to do supervised reading and studying of special topics in physics. Ordinarily such topics do not include those covered in a regular course of the Department. Honor grades in Physics 15 and a number of intermediate-level courses are ordinarily required. The student must be accepted by a member of the faculty.

Course Notes:

A list of possible faculty sponsors and their fields is available in Lyman 238 and on the Physics Department's website. Course enrollment forms may be obtained from Lyman 238.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science

Attribute	Value(s)
FAS: Course Level	Primarily for Undergraduate Students

Physics 95

Topics in Current Research (111967)

Eric Mazur

2026 Spring (4 Credits) Schedule: M 0300 PM - 0415 PM
T 0630 PM - 0845 PM

Instructor Permissions: Instructor Enrollment Cap: n/a

This course bridges foundational physics study with the world of current research, preparing you for work in a research group or for life after graduation. Through student-led tutorials, faculty research seminars, guided paper discussions, and one-on-one mentoring, you will build the research skills that will serve you throughout your career: reading and analyzing scientific literature, presenting complex ideas clearly, asking incisive questions, integrating AI tools responsibly, and engaging in professional scientific dialogue. Along the way, you will explore paths into research, build a professional portfolio, and prepare for next steps—whether summer research, graduate school, or a career in physics-related fields.

Course Notes:

The course is especially suited for sophomores or juniors preparing to join a research group or secure a summer research opportunity; and for juniors and seniors preparing themselves for the next step after graduating. See the Canvas site for a more detailed description and a list of learning outcomes.

Before the Tuesday evening meeting, light dinner will be served from 6:30 to 7:30 pm. During this time you can interact with the speakers to hear more about their career paths.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Undergraduate Students

Physics 106

Mathematical Methods for Physics (224281)

David Morin

2026 Spring (4 Credits) Schedule: WF 1200 PM - 0115 PM

Instructor Permissions: None Enrollment Cap: n/a

This course is designed to give students the mathematical tools that will be helpful in their physics courses. Topics include: Fourier analysis, special functions, tensors, differential equations, contour integration, group theory, probability, statistics, variational principle, phase space, Green's functions, transforms.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	For Undergraduate and Graduate Students

Physics 113

Electronics for Physicists (216641)

Kathryn Ledbetter

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0415 PM

Instructor Permissions: Instructor Enrollment Cap: 16

Introduction to electronics for the physical sciences, focusing on skills applicable to laboratory work. Topics include instruments (multimeter, oscilloscope, function generator, power supply), analog circuits (amplifiers, filters, integrators), digital logic, analog/digital interfaces, noise reduction, PID control, and microcontrollers. Emphasis on circuit understanding and use of laboratory instrumentation. The class meets twice weekly, with an hour of lecture/discussion, followed by lab.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
Waitlist Class	No
FAS: Course Level	For Undergraduate and Graduate Students

Physics 137

Philosophy of Quantum Theory (218289)

Jacob Barandes

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0245 PM

Instructor Permissions: Instructor Enrollment Cap: n/a

Quantum theory is our most empirically successful scientific framework. The theory reliably accounts for the measurement results of atomic clocks and particle accelerators to many decimal places, and much of our modern technology relies on it. However, the theory's axiomatic foundations are arguably either inconsistent or incomplete, and there is still no consensus over what the theory entails about the world. This course will cover the century-long effort to resolve these mysteries and others, a story that features fantastical notions like parallel universes, pilot waves, quasi-probabilities, alive-and-dead cats, and spooky action at a distance. Throughout the course, we will engage with many relevant questions in philosophy, from determinism and causation to epistemology and the meaning of probability.

Course Notes:

This course is cross-listed as Philosophy 151 and Physics 137. When taken as Philosophy 151, this course satisfies a divisional distribution in Arts and Humanities. When taken as Physics 137, this course satisfies a divisional distribution in Science & Engineering & Applied Science. Either way, this course counts toward the concentration requirements for the

physics concentration.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	For Undergraduate and Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 143A

Quantum Mechanics I (108465)

Masahiro Morii

2026 Spring (4 Credits) Schedule: TR 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

Introduction to nonrelativistic quantum mechanics: uncertainty relations; Schrödinger equation; Dirac notation; matrix mechanics; one-dimensional problems including particle in box, tunneling, and harmonic oscillator; angular momentum, hydrogen atom, spin, Pauli principle; and if time allows: time-independent perturbation theory; and scattering.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	For Undergraduate and Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 143B

Quantum Mechanics II (111731)

Daniel Jafferis

2026 Spring (4 Credits) Schedule: TR 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

Introduction to path integrals, identical particles, many-electron theory, WKB approximation, time-dependent perturbation theory, scattering theory, relativistic quantum mechanics, and basics of quantum information.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	For Undergraduate and Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 153

Electrodynamics (111822)

Sonia Paban

2026 Spring (4 Credits) Schedule: TR 0300 PM - 0415 PM

Instructor Permissions: None Enrollment Cap: n/a

Aimed at advanced undergraduates. Emphasis on the properties and sources of the electromagnetic fields and on the wave aspects of the fields. Course starts with electrostatics and subsequently develops the Maxwell equations. Topics: electrostatics, dielectrics, magnetostatics, electrodynamics, radiation, wave propagation in various media, wave optics, diffraction and interference. A number of applications of electrodynamics and optics in modern physics are discussed.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	For Undergraduate and Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 175

Laser Physics and Modern Optical Physics (121941)

Mara Prentiss

2026 Spring (4 Credits) Schedule: WF 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

Introduction to laser physics and modern optical physics aimed at advanced undergraduates. Review of electromagnetic theory and relevant aspects of quantum mechanics. Wave nature of light. Physics of basic optical elements. Propagation of focused beams, optical resonators, dielectric waveguides. Interaction of light with matter, introduction to quantum optics. Lasers. Physics of specific laser systems. Introduction to nonlinear optics. Modern applications.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	For Undergraduate and Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 181

Statistical Mechanics and Thermodynamics (143450)

Girma Hailu

2026 Spring (4 Credits) Schedule: TR 1200 PM - 0115 PM

Instructor Permissions: None Enrollment Cap: n/a

This course provides an introduction to statistical mechanics and thermal physics. It surveys the fundamental elements of classical and quantum statistical mechanics (ensembles and partition functions) and thermodynamics (temperature, heat, work, free energy) and their application to a variety of physical systems. Topics covered may include heat engines, solid-state physics, blackbody radiation, phase transitions, physical chemistry, stellar physics, quantum information, Bose-Einstein condensation, and transport phenomena.

Course Notes:

May not be taken for credit in addition to Engineering Sciences 181.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	For Undergraduate and Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 191

Advanced Laboratory (121993)

Matteo Mitrano

Jieping Fang

Joseph Peidle

Jenny Hoffman

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0530 PM

Instructor Permissions: Instructor Enrollment Cap: n/a

Students will engage in the practice and discussion of experimental science by completing three projects, drawn from the fields of condensed matter, atomic, optical, nuclear, and/or particle physics. Laboratory techniques, theoretical understanding, data analysis methods, and scientific reading and writing skills are developed in collaboration with a lab partner, and with guidance from a team of experimental physics faculty and staff. Students will learn to write the results of each project in a format that is appropriate for a peer-reviewed journal. Available experiments range from classics of the twentieth century such as relativistic mass of the electron, lifetime of the muon, superfluid helium, and the quantum Hall effect, to topics of current interest such as slow light, nitrogen-vacancy centers in diamond, superconductivity and the Meissner effect, optical tweezers, and ultrafast optical spectroscopy.

Course Notes:

A substantial amount of outside reading is expected. Physics 191 is the same course as Physics 247; if you are a graduate student, please enroll in 247.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
Quantitative Reasoning with Data	Yes
FAS: Course Level	For Undergraduate and Graduate Students

Physics 195B

Introduction to Quantum Materials and Devices (218288)

Robert Westervelt

2026 Spring (4 Credits) Schedule: MWF 0300 PM - 0415 PM

Instructor Permissions: None Enrollment Cap: n/a

This course provides an introduction to quantum materials and devices, including low-dimensional materials, single and double quantum dots, Josephson junctions, and graphene. Their behavior is explained using

quantum and semiclassical transport, the Coulomb blockade, and superconductivity. Quantum devices offer new approaches for electronics and photonics.

Course Notes:

Formerly ENGSCI 171. Physics 195b is also offered as Applied Physics 195b. Students may not take both for credit.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	For Undergraduate and Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 201

Data Analysis for the Physical Sciences (161201)

Vinothan Manoharan

2026 Spring (4 Credits) Schedule: MWF 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

This course covers methods for analyzing experimental data. Students will learn a Bayesian framework for statistical inference, modern computational methods such as Markov-chain Monte Carlo techniques, and the application to problems in particle physics, biophysics, condensed matter, applied physics, astrophysics, and other fields. The course emphasizes an intuitive, principled approach to data analysis and will involve discussions of ethics and reproducible research.

Course Notes:

This course is suitable for students with limited or rusty programming skills. Students with more advanced programming skills may wish to take APMTH 207 or ENG-SCI 255.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
Quantitative Reasoning with Data	Yes

Physics 210

General Theory of Relativity (114266)

Jordan Cotler

2026 Spring (4 Credits) Schedule: MWF 0300 PM - 0415 PM

Instructor Permissions: None Enrollment Cap: n/a

An introduction to general relativity: the principle of equivalence, Riemannian geometry, Einstein's field equation, the Schwarzschild solution, the Newtonian limit, experimental tests, black holes.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 211BR

Topics in Quantum Gravity (225904)

Andrew Strominger

2026 Spring (4 Credits) Schedule: W 0315 PM - 0515 PM

Instructor Permissions: None Enrollment Cap: n/a

A selection of topics in quantum gravity focusing on the bottom-up approach to holography. Introductions will be given to black hole entropy and microstates, AdS/CFT, deSitter and flat holography, twistor theory and soft algebras.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 212

Cosmology (203431)

Cora Dvorkin

2026 Spring (4 Credits) Schedule: TR 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

Graduate course on Physical Cosmology. Topics will include: the physics of Inflation, Cosmic Microwave Background anisotropies, evidence for Dark Matter, discovery of the accelerated expansion of the Universe, primordial gravitational waves, gravitational lensing, likelihood analysis, structure formation.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students

Physics 218

Quantum Chaos and Localization (110678)

Eric Heller

2026 Spring (4 Credits) Schedule: TR 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

The important subject of quantum ergodicity and thermalization is under active investigation. This course is designed to address the questions that arise, developing the fundament tools right up to the research frontier. Chaos theory, Anderson localization, scarring, random matrix theory, decoherence, entanglement, and measurement theory are considered. As much as possible, this course will adopt a seminar format, with student discussion and presentations becoming more important as the term progresses.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 220

Fluid Dynamics Across Scales (110144)

L Mahadevan

2026 Spring (4 Credits) Schedule: MW 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

This course develops the principles of hydrodynamics from fundamental statistical and continuum viewpoints. Emphasis is placed on scaling laws, similarity solutions, singular behaviors, along with modern applications across the physical and biological sciences, from electron flows to geophysical fluid dynamics, from active matter to combustion and turbulence. Statistical mechanics and hydrodynamic emergence; Boltzmann to Navier-Stokes; Continuum mechanics and constitutive laws; Eulerian and Lagrangian descriptions; Euler's equation, vorticity and Kelvin's theorem; Navier-Stokes equations and boundary conditions; Stokes flows and lubrication theory; boundary layers, lift, drag, separation; similarity solutions and asymptotics; finite-time singularities; Kolmogorov theory, intermittency, law of the wall; transitions to turbulence, chaos; Instabilities; linear and nonlinear waves; GFD and shallow water theory, tsunamis; stratification, internal waves, convection; hurricanes and atmospheric vortices; viscous electron fluids, Gurzhi effect; MHD, Alfven waves; plasma hydrodynamics, Langmuir waves; combustion; Stefan problems and phase change; low Reynolds number swimming; active matter, nematodynamics, towards ML and data-driven hydrodynamics.

Course Notes:

Also offered as ENG-SCI 220. Students may not take both for credit.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 231

Computational Neuroscience (217838)

Haim Sompolinsky

2026 Spring (4 Credits) Schedule: MW 0300 PM - 0415 PM

Instructor Permissions: None Enrollment Cap: n/a

Follows trends in modern brain theory, focusing on local neuronal circuits as basic computational modules. Explores the relation between network architecture, dynamics, and function. Introduces tools from information theory, statistical inference, and the learning theory for the study of experience-dependent neural codes. Specific topics: computational principles of early sensory systems; adaptation and gain control in vision, dynamics of recurrent networks; feature selectivity in cortical circuits; memory; learning and synaptic plasticity; noise and chaos in neuronal systems.

Course Notes: Also offered as Neuro 231 and MCB 231. Cannot be taken for credit as Physics 231 if Neuro 231 or MCB 231 is already complete.

Requirements: Cannot be taken for credit if MCB 231 or NEURO 231 completed or in progress.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students

Physics 232

Advanced Electromagnetism (112263)

David R. Nelson

2026 Spring (4 Credits) Schedule: MW 0300 PM - 0415 PM

Instructor Permissions: None Enrollment Cap: n/a

Maxwell's equations, conservation laws, Green's functions, time-dependent solutions and radiation, scattering and diffraction, and gauge and Lorentz invariance. Time permitting: negative refractive index materials and radiation from rapidly accelerating charges.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 247

Laboratory Course in Contemporary Physics (145024)

Matteo Mitrano

Jenny Hoffman

Jieping Fang

Joseph Peidle

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0530 PM

Instructor Permissions: Instructor Enrollment Cap: n/a

Students will engage in the practice and discussion of experimental science by completing three projects, drawn from the fields of condensed matter, atomic, optical, nuclear, and/or particle physics. Laboratory techniques, theoretical understanding, data analysis methods, and scientific reading and writing skills are developed in collaboration with a lab partner, and with guidance from a team of experimental physics faculty and staff. Students will learn to write the results of each project in a format that is appropriate for a peer-reviewed journal. Available experiments range from classics of the twentieth century such as relativistic mass of the electron, lifetime of the muon, superfluid helium, and the quantum Hall effect, to topics of current interest such as slow light, nitrogen-vacancy centers in diamond, superconductivity and the Meissner effect, optical tweezers, and ultrafast optical spectroscopy.

Course Notes:

A substantial amount of outside reading is expected. Physics 247 is the same course as Physics 191; if you are an undergraduate, please enroll in 191.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students

Physics 251B

Advanced Quantum Mechanics II (111876)

Eslam Khalaf

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

Path integrals; relativistic quantum mechanics and quantum fields; identical particles; scattering theory; quantum information theory.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 253B

Quantum Field Theory II (115442)

Matthew Schwartz

2026 Spring (4 Credits) Schedule: WF 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

A continuation of physics 253a. Topics include non-renormalizable theories, infrared divergences, the renormalization group, non-Abelian gauge theories, spinor helicity methods, spontaneous symmetry breaking, weak interactions, anomalies and quantum chromodynamics. Additional or alternative topics may be covered depending on time and interest.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 253CR Section: 002

Conformal Field Theory and the AdS/CFT Correspondence (118459)

Xi Yin

2026 Spring (4 Credits) Schedule: TR 1200 PM - 0115 PM

Instructor Permissions: None Enrollment Cap: n/a

An introduction to conformal field theories in general dimensions, the conformal bootstrap, the AdS/CFT correspondence, N=4 super-Yang-Mills theory and other holographic gauge theories.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 253DR

Axion Physics (226491)

Matthew Reece

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

Theory and phenomenology of axion fields. First, we review the QFT toolkit needed to understand the Strong CP problem and axions (e.g., instantons, theta terms, Chern-Simons terms, the chiral anomaly, the chiral Lagrangian). We will discuss axion models with an emphasis on the axion quality problem and extra-dimensional axions; phenomenological aspects of axion physics (axion cosmology, axion dark matter, laboratory searches, astrophysical constraints); and theoretical developments related to axions (anomaly inflow, generalized symmetries).

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Primarily for Graduate Students

Physics 260B

Introduction to Quantum Information II (224016)

Mikhail Lukin

2026 Spring (4 Credits) Schedule: MW 1030 AM - 1145 AM

Instructor Permissions: None Enrollment Cap: n/a

Introduction to quantum information science and quantum computation. Emphasis on fundamental concepts including qubits and quantum operations, the nature of entanglement and its manipulation, quantum error correction, and various implementation models. Topics include: basics of quantum information, different models of quantum computing, fundamental quantum algorithms, quantum error correction, and fault tolerance; as well as experimental implementations. Recent developments in the field will be discussed.

Course Notes:

Physics 260b is also offered as QSE-210b. Students may not take both for credit.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 287BR

Topics in String Theory (114008)

C. Vafa

2026 Spring (4 Credits) Schedule: F 0900 AM - 1200 PM

Instructor Permissions: None Enrollment Cap: n/a

A selection of topics in string theory with emphasis on geometric aspects of string compactifications and the resulting quantum systems in diverse dimensions.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Graduate Students
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 289R

Topics in Mathematical Physics (118733)

Arthur Jaffe

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

Over the past few years, the development of new mathematical picture languages led to insights in several fields, including quantum information, entanglement, entropy, error correction, uncertainty principles, Fourier analysis, and fusion algebras. This course will overview a number of these directions and develop several of these topics from scratch and in depth, relating them to statistical mechanics models and to quantum field theory.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 294

Superconductivity and Superconducting Devices (226799)

Philip Kim

2026 Spring (4 Credits) Schedule: TR 0130 PM - 0245 PM

Instructor Permissions: None Enrollment Cap: n/a

This course focuses on the electromagnetic and quantum phenomena associated with superconductivity, as well as their applications. Topics include a phenomenological description of superconductivity, a brief survey of BCS theory, the Ginzburg-Landau theory of superconductivity, magnetic vortices, the Josephson effect, Bogoliubov-de Gennes description, superconducting qubits, and unconventional superconductivity.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 295B

Quantum Theory of Solids (127979)

Ashvin Vishwanath

2026 Spring (4 Credits) Schedule: W 0300 PM - 0545 PM

Instructor Permissions: None Enrollment Cap: n/a

A course on the application of the principles of many-particle quantum mechanics to the properties of solids. The objective is to make students familiar with the tools of second quantization and diagrammatic perturbation theory, while describing the theory of the electron liquid, the BCS theory of superconductivity, and theory of magnetism in metals and insulators. Modern topics on correlated electron systems will occupy the latter part of the course.

Course Notes:

Physics 295b is also offered as Applied Physics 295b. Students may not take both for credit.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students

Physics 297

Professional Writing for Scientists and Engineers (217830)

Suzanne Smith

Jenny Hoffman

2026 Spring (4 Credits) Schedule: W 0300 PM - 0500 PM

Instructor Permissions: Instructor Enrollment Cap: 6

This class leads students to develop their skills in the critical reading and writing of science and engineering. Genres will include research articles, grant proposals, school/fellowship/job applications, or lay abstracts & press releases for the non-scientific public. Crucially, students will be empowered not only to achieve their own writing goals, but also to break down these learned skills and impart them to others, as effective collaborators and mentors of younger students.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Primarily for Graduate Students
FAS Divisional Distribution	Science & Engineering & Applied Science
Waitlist Class	No

Physics 300C

Course-Related Work (210875)

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Not Available for Cross Registration
FAS: Course Level	Graduate Course

Physics 300R

Research-Related Work (210873)

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Not Available for Cross Registration
FAS: Course Level	Graduate Course

Physics 300T

Teaching-Related Work (210874)

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Not Available for Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 302A Section: 001S

Teaching and Communicating Physics (107899)

Louis Deslauriers

2026 Spring (4 Credits) Schedule: W 0515 PM - 0715 PM

Instructor Permissions: Instructor Enrollment Cap: 45

Hands-on, experienced-based course for graduate students on teaching and communicating physics, conducted through practice, observation, feedback, and discussion. Departmental rules for teaching fellows, section and laboratory teaching, office hours, assignments, grading, and difficult classroom situations.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
Waitlist Class	No
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 302B

Teaching Requirement for Physics Graduate Students (205610)

Lisa Cacciabaudo

Hannah Belcher

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Selecting this course indicates that you are completing your one-time teaching requirement for the physics doctoral degree.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 303A

Sensory and Behavioral Neuroscience (118884)

Aravinthan Samuel

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 303B

Sensory and Behavioral Neuroscience (118886)

Aravinthan Samuel

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 304A

Topics in Field Theory and String Theory (110256)

Daniel Jafferis

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 304B

Topics in Field Theory and String Theory (110257)

Daniel Jafferis

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 305A

Experimental High Energy Physics (122762)

John Huth

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 305B

Experimental High Energy Physics (123959)

John Huth

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 306A

Experimental Physics in Quantum Materials (211047)

Julia Mundy

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 306B

Experimental Physics in Quantum Materials (211048)

Julia Mundy

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 307A

Atomic/Bio-physics, Quantum Optics (114638)

Lene Hau

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 307B

Atomic/Bio-physics, Quantum Optics (114639)

Lene Hau

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 308A

Experimental Astrophysics and Cosmology (215745)

John Kovac

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 308B

Experimental Astrophysics and Cosmology (215746)

John Kovac

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: None Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 309A

Introduction to String Theory (114009)

C. Vafa

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 309B

Topics in Elementary Particle Theory (114014)

C. Vafa

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 310A

Experimental Condensed Matter Physics and Biophysics (215747)

Hongkun Park

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 310B

Experimental Condensed Matter Physics and Biophysics (215748)

Hongkun Park

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 311A

Experimental Atomic, Molecular, and Low-Energy Particle Physics (148189)

John Doyle

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 311B

Experimental Atomic, Molecular, and Low-Energy Particle Physics (143819)

John Doyle

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 312A

Topics in Statistical Physics (215749)

Michael P. Brenner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 312B

Topics in Statistical Physics (215750)

Michael P. Brenner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 313A

Experimental Condensed Matter Physics (122839)

Amir Yacoby

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 313B

Experimental Condensed Matter Physics (122840)

Amir Yacoby

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 314A

Ultrafast dynamics of quantum materials (216655)

Matteo Mitrano

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 314B

Ultrafast dynamics of quantum materials (216656)

Matteo Mitrano

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 315A

Topics in Theoretical Atomic, Molecular, and Condensed Matter Physics (121332)

Eric Heller

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 315B

Topics in Theoretical Atomic, Molecular, and Condensed Matter Physics (145282)

Eric Heller

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 316A

Topics in biophysics and physical chemistry (215741)

Adam Cohen

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 316B

Topics in biophysics and physical chemistry (215742)

Adam Cohen

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 317A

Topics in Biophysics (119763)

Xiaowei Zhuang

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 317B

Topics in Biophysics (119764)

Xiaowei Zhuang

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 318A

High-Energy Neutrino Physics (216657)

Carlos Arguelles Delgado

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 318B

High-Energy Neutrino Physics (216658)

Carlos Arguelles Delgado

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 319A

Topics in Experimental High Energy Physics (113986)

Melissa Franklin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 319B

Topics in Experimental High Energy Physics (113987)

Melissa Franklin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 320A Section: 01

Topics in Theoretical AMO / Quantum Optics (217917)

Susanne Yelin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 320B

Topics in theoretical AMO/Quantum Optics (217918)

Susanne Yelin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 321A

Experimental Soft Condensed Matter Physics (112282)

David Weitz

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 321B

Experimental Soft Condensed Matter Physics (112283)

David Weitz

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 322A

Physics of Soft, Active and Sentient Matter (215739)

L Mahadevan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 322B

Physics of Soft, Active and Sentient Matter (215740)

L Mahadevan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 323A

Topics in Condensed Matter Physics (203753)

Ashvin Vishwanath

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 323B

Topics in Condensed Matter Physics (203754)

Ashvin Vishwanath

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 324A

Topics in Modern Astrophysics (204541)

Douglas Finkbeiner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science

Physics 324B

Topics in Modern Astrophysics (204542)

Douglas Finkbeiner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 325A

Theoretical Neuroscience and Artificial Intelligence (220798)

Haim Sompolinsky

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 325B

Theoretical Neuroscience and Artificial Intelligence (220799)

Haim Sompolinsky

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 326A

Physical Chemistry and Atomic Physics (221656)

Kang-Kuen Ni

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 326B

Physical Chemistry and Atomic Physics (221657)

Kang-Kuen Ni

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 327A

Topics in Condensed Matter Physics (117548)

David R. Nelson

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 327B

Topics in Condensed Matter Physics (118814)

David R. Nelson

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 328A Section: 002

Topics in Condensed Matter Theory (222968)

Eslam Khalaf

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 328B

Topics in Condensed Matter Theory (222969)

Eslam Khalaf

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	Science & Engineering & Applied Science
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 329A

Topics in Active / Living Matter Physics (226582)

Sunghan Ro

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 329B

Topics in Active / Living Matter Physics (226583)

Sunghan Ro

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or a seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 330A

Topics in Experimental Quantum Physics (226584)

Xing Fan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 330B

Topics in Experimental Quantum Physics (226585)

Xing Fan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 331A

Topics in String Theory (125320)

Xi Yin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 331B

Topics in String Theory (125321)

Xi Yin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 333A

Experimental Atomic Physics (112040)

Mara Prentiss

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 333B

Experimental Atomic Physics (112042)

Mara Prentiss

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 334A

Theoretical and Experimental Evolutionary Dynamics (219976)

Michael Desai

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 334B

Theoretical and Experimental Evolutionary Dynamics (219977)

Michael Desai

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 335A

Topics in Experimental Astroparticle Physics and Quantum Sensing (226818)

Stefan Knirck

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 335B

Topics in Experimental Astroparticle Physics and Quantum Sensing (226819)

Stefan Knirck

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 337A

Topics in Experimental High Energy Physics (114834)

Masahiro Morii

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 337B

Topics in Experimental High Energy Physics (114835)

Masahiro Morii

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 339A

Condensed Matter and Atomic Physics (120869)

Subir Sachdev

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 339B

Condensed Matter and Atomic Physics (120868)

Subir Sachdev

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 340A

Topics in Many-body Atomic and Condensed Matter Physics (219983)

Norman Yao

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 340B

Topics in Many-body Atomic and Condensed Matter Physics (219984)

Norman Yao

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 341A

Topics in Experimental Atomic and Condensed Matter Physics (111169)

Markus Greiner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 341B

Topics in Experimental Atomic and Condensed Matter Physics (118950)

Markus Greiner

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 342A

Topics in High Energy Physics and Cosmology (223029)

Sonia Paban

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture of seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	Science & Engineering & Applied Science
FAS: Course Level	Graduate Course

Physics 342B

Topics in High Energy Physics and Cosmology (223113)

Sonia Paban

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 343A

Observational Cosmology and Experimental Gravitation (119051)

Christopher Stubbs

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 343B

Observational Cosmology and Experimental Gravitation (119052)

Christopher Stubbs

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 347A

Topics in Quantum Optics (115495)

Mikhail Lukin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 347B

Topics in Quantum Optics (115525)

Mikhail Lukin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 348A

Physics of quantum information, computation, and spacetime (224888)

Jordan Cotler

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 348B

Physics of quantum information, computation, and spacetime (224889)

Jordan Cotler

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 349A

Topics in Theoretical Particle Physics (125315)

Matthew Schwartz

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 349B

Topics in Theoretical Particle Physics (125316)

Matthew Schwartz

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 350A

Experimental Physics in Low Dimensional Materials (116409)

Philip Kim

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: 10

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None
Waitlist Class	No
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 350B

Experimental Physics in Low Dimensional Materials (205462)

Philip Kim

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 351A

Experimental Soft Condensed Matter and Materials Physics (120872)

Vinothan Manoharan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 351B

Experimental Soft Condensed Matter and Materials Physics (120873)

Vinothan Manoharan

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 355A

Topics in Biological and Artificial Neural Networks (226842)

SueYeon Chung

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 355B

Topics in Biological and Artificial Neural Networks (226843)

SueYeon Chung

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 357A

Experimental Condensed Matter Physics (113916)

Robert Westervelt

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 357B

Experimental Condensed Matter Physics (115410)

Robert Westervelt

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 363A

Topics in Condensed Matter Theory (112091)

Efthimios Kaxiras

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 363B

Topics in Condensed Matter Theory (112092)

Efthimios Kaxiras

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 365A

Topics in Mathematical Physics (115341)

Arthur Jaffe

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 365B

Topics in Mathematical Physics (110837)

Arthur Jaffe

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 373A

Historical and Philosophical Approaches to Modern and Contemporary Physics (143237)

Peter Galison

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 373B

Historical and Philosophical Approaches to Modern and Contemporary Physics (143239)

Peter Galison

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 379A

Topics in Elementary Particle Research and String Theory (144344)

Andrew Strominger

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

eading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 379B

Topics in Elementary Particle Research and String Theory (148230)

Andrew Strominger

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 381A

Experimental Condensed Matter Physics (119765)

Jenny Hoffman

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 381B

Experimental Condensed Matter Physics (119766)

Jenny Hoffman

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None

Physics 383A

Low Temperature Physics of Quantum Fluids and Solids; Ultra High Pressure Physics (113458)

Isaac Silvera

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 383B

Low Temperature Physics of Quantum Fluids and Solids; Ultra High Pressure Physics (113887)

Isaac Silvera

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None

Physics 387A

Applied Photonics (116745)

Eric Mazur

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 387B

Applied Photonics (116755)

Eric Mazur

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 389A

Topics in Field Theory: The Standard Model and Beyond (116428)

Lisa Randall

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 389B

Topics in Field Theory: The Standard Model and Beyond (116429)

Lisa Randall

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course

Physics 395A

Topics in Theoretical High Energy/String Theory (109287)

Matthew Reece

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course
All: Cross Reg Availability	Available for Harvard Cross Registration

Physics 395B

Topics in Theoretical High Energy/String Theory (109288)

Matthew Reece

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 399A

Topics in Cosmology (160981)

Cora Dvorkin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Reading and research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS Divisional Distribution	None
FAS: Course Level	Graduate Course

Physics 399B

Topics in Cosmology (160982)

Cora Dvorkin

2026 Spring (4 Credits) Schedule: TBD

Instructor Permissions: Instructor Enrollment Cap: n/a

Dissertation research. Not a lecture or seminar course.

Additional Course Attributes:

Attribute	Value(s)
All: Cross Reg Availability	Available for Harvard Cross Registration
FAS: Course Level	Graduate Course
FAS Divisional Distribution	None