

Physics

Website (<https://cos.northeastern.edu/physics/>)

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Physics examines the fundamental principles that govern natural phenomena, ranging in scale from collisions of subatomic particles; through the behavior of solids, liquids, and biomolecules; to exploding stars and colliding galaxies.

The program aims to help students experience the intellectual stimulation of studying physics and the excitement of frontline research, understand the basic principles and techniques of physics-related careers, and prepare for graduate study in physics or related fields.

Programs

The department offers several degree programs:

- BS in physics, applied physics, or biomedical physics
- BS in applied physics/MS in electrical engineering
- MS and PhD in physics

Four levels of courses are offered:

- Descriptive courses for nonscience majors with limited mathematical background
- General survey courses for students in scientific and engineering fields
- Advanced courses primarily intended for physics, biomedical physics, and applied physics majors
- Highly advanced courses primarily intended for prospective graduate students

A BS, MS, or PhD degree in physics offers many career opportunities in industrial, government, and academic high-technology laboratories as scientists or engineers.

COMBINED MAJORS

Students also have the opportunity to combine physics with another discipline through a combined major. Current combined majors with physics include mathematics, computer science, data science, music with concentration in music technology, philosophy, chemical engineering, computer engineering, electrical engineering, and mechanical engineering.

Research Opportunities for Undergraduates

Students are encouraged to participate in the excitement of cutting-edge research in particle physics, biophysics, quantum materials, network science, and nanotechnology with world-renowned faculty.

Programs

Bachelor of Science (BS)

- Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/science/physics/physics-bs/>)
- Applied Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/science/physics/applied-physics-bs/>)
- Biomedical Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/science/physics/biomedical-physics-bs/>)
- Computer Science and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/computer-information-science/computer-information-science-combined-majors/computer-science-physics-bs/>)
- Data Science and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/computer-information-science/computer-information-science-combined-majors/data-science-physics-bs/>)
- Mathematics and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/science/mathematics/mathematics-physics-bs/>)
- Physics and Music with Concentration in Music Technology (Boston) (<https://catalog.northeastern.edu/undergraduate/science/physics/physics-music-bs/>)
- Physics and Philosophy (Boston) (<https://catalog.northeastern.edu/undergraduate/science/physics/physics-philosophy-bs/>)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/engineering/chemical/chemical-engineering-physics-bsche/>)

Bachelor of Science in Computer Engineering (BSCmpE)

- Computer Engineering and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/engineering/electrical-computer/computer-engineering-physics-bscompe/>)

Bachelor of Science in Electrical Engineering (BSEE)

- Electrical Engineering and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/engineering/electrical-computer/electrical-engineering-physics-bsee/>)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering and Physics (Boston) (<https://catalog.northeastern.edu/undergraduate/engineering/mechanical-industrial/mechanical-engineering-physics-bsme/>)

Minor

- Astrophysics (<https://catalog.northeastern.edu/undergraduate/science/physics/astrophysics-minor/>)
- Physics (<https://catalog.northeastern.edu/undergraduate/science/physics/physics-minor/>)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (<https://catalog.northeastern.edu/undergraduate/science/accelerated-bachelor-graduate-degree-programs/#programstext>)