Physics
Course 8

The study of physics is an attempt to understand the fundamental nature of the forces and particles and the resultant states of matter that make up the physical world. The Department of Physics at MIT is devoted to providing undergraduates with a broad-based education in the fundamental concepts of physics and with the experimental and theoretical skills essential to practicing scientists. Outside the classroom, research opportunities for undergraduates are available in astrophysics, nuclear, particle, atomic, plasma, condensed matter, quantum information, and biological physics. Undergraduate education in physics at MIT prepares students for both graduate study and professional careers.

Physics at MIT
The Department of Physics at MIT is one of the largest in the world and is at the forefront of physics research. However, the faculty members are just as committed to providing individual attention to their undergraduate students as they are to advancing their research. Approximately 83 full-time faculty members teach the 207 undergraduate and 234 graduate students in the department. Post-doctoral associates provide additional guidance and support. Subjects are taught in a manner that combines the advantages of a large university with the benefits of a small college. The advisor-to-student ratio of one to five rivals that of many smaller colleges.

Undergraduate Program
All candidates for a bachelor's degree at MIT must complete the General Institute Requirements. In addition to those requirements, students majoring in the focused track of physics are expected to complete several subjects in classical and quantum physics, a substantial laboratory subject in modern physics, mathematics subjects, and a senior thesis. The flexible track provides a thorough foundation in physics while allowing students the opportunity to explore subjects in associated disciplines. A minor degree in physics is also available.

Research
In addition to instruction provided by some of the world's preeminent physicists, the department offers undergraduates the opportunity to work with faculty and staff on the forefront of physics research. MIT is constantly advancing the study of physics through this work, and students are active participants in the research. For example, undergraduates are now working on projects involving elementary particles, spacecraft, and high temperature superconductors. Students may receive academic credit for this work. An added benefit of UROP projects is that many evolve into students' theses or opportunities for summer employment.

Members of the department are associated with many special facilities at MIT. These include the Bates Linear Accelerator, the Center for Materials Science and Engineering, the Center for Theoretical Physics, the Kavli Institute for Astrophysics and Space Research, the Center for Ultracold Atoms, the Laboratory for Nuclear Science, the Research Laboratory of Electronics, the Plasma Science and Fusion Center, and the Wallace Astrophysical Observatory. These facilities are among the best and most advanced in the world and are open to all undergraduates.

Post Baccalaureate Opportunities
The department offers two degree programs: S.B. and Ph.D. There are many opportunities for students who do not pursue advanced degrees. About 30 percent of the S.B. recipients enter careers in such fields as materials science, electrical engineering and computer science, oceanography, and financial management. The students who have pursued advanced degrees have gone into academic, laboratory, and industrial positions in physics, as well as other fields such as medicine, radiology, and

economics. Department graduates have been recognized by many professional awards, including the Nobel Prize.

Contact Information

A physics education at MIT opens many doors leading to interesting career paths. For further information about the department and its programs, please contact
Physics Academic Programs, MIT, 77 Massachusetts Ave., Room 4-315, Cambridge, MA 02139-4307, (617)253-4841, or visit the department's web pages at
http://web.mit.edu/physics/.

The MIT Bulletin, Courses and Degree Programs Issue, contains further information on the Institute, including all graduate and undergraduate courses and programs. For details on ordering the course catalogue, please visit the MIT Press Bookstore website at
http://mitpress.mit.edu/bookstore/bulletin.html.

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