



## Physics

**The program in Engineering Physics** provides a thorough grounding in fundamental physics, while also providing exposure to engineering disciplines, particularly mechanical and electrical engineering. Engineering physics students develop the skills essential for graduate school, industry, government service, and teaching.

Advanced physics classes are small, and a student's academic advisor is a senior faculty member.

### Requirements for the B.S. in Engineering Physics

Physics.....	32
Engineering.....	9
Mathematics.....	18
Chemistry.....	8
Foreign Language.....	3
Clare College.....	36
General Electives.....	14

In addition, engineering physics majors may to solidify their physical understanding by teaching others as tutors and/or as teaching aides in the introductory Physics class.

### Internships

Physics majors are encouraged to participate in the **National Science Foundation Research Experience for Undergraduate Program (REU)** or in alternative engineering-oriented internship experiences with industries or government agencies. Students may receive academic credit for one such experience through Physics 312, Internship in Applied Physics. Typically, students take one or two internships during summers between sophomore, junior, and senior years. Often, during an REU or summer internship students make contacts that lead directly to employment or admission to a graduate program. Visit our web

page to see the reports of our students who recently completed NSF REUs ([www.sbu.edu/physics](http://www.sbu.edu/physics)).

### Career Outlook

Training in physics leads to many career opportunities that are associated with the broad technical/scientific education one receives in studying physics. The world we live in is shaped by physical laws, whether it be:

- computer technology (solid state physics);
- space exploration (classical mechanics, electrodynamics, solid state physics);
- medical physics (electromagnetics, mathematical physics, nuclear and atomic physics, ultrasonics);
- communications (optics, electromagnetics, solid state physics);
- aeronautics (classical mechanics, thermodynamics)
- or manufacturing (classical mechanics, thermodynamics).

The career paths taken by recent graduates of the Department of Physics attest to the flexibility of the Engineering Physics degree. In recent times, graduates have typically gone on to graduate study in physics; civil, electrical, mechanical, or optical engineering; secondary education; medicine, medical physics, or biomedical engineering.

Graduates of the Department of Physics have received advanced degrees from Harvard, Columbia, Johns Hopkins, the University of Rochester, Syracuse University, Lehigh University, SUNY Buffalo, Missouri, Arkansas, Florida, New Hampshire, Drexel, and the University of Dayton, among others. Others have made careers in secondary education, the armed forces, avionics, software engineering, mechanical engineering, construction management, and civil engineering.

