

A dictionary might define physics as “the science that deals with matter and energy,” but in fact it is not practical to set any limits upon physics “by definition.” Physicists study everything from galaxies to subatomic particles, from window glass to living things, in an attempt to understand the basic principles of nature and their effects on the world in which we live. Students studying physics at Oberlin find a lively, diverse program with faculty interested in both undergraduate teaching and physics research, with a rich selection of physics and astronomy courses, and with ample opportunities for both formal and informal physics education, including active student research involvement.

The program is large enough to offer a first-rate education, yet small enough to encourage close student-faculty contact. Course offerings cover the fundamental areas of physics, as well as additional areas such as electronics and astrophysics. Guest speakers visit campus about once a month to give lectures and to talk informally with students. Frequent lunch gatherings generate lively discussion between students and faculty concerning recent happenings in physics.

About 10 physics majors graduate annually. About half of the recent majors have entered graduate school at such institutions as Princeton, Cornell, Rochester, and the universities of California, Colorado, and Illinois. Others have gone on to medical school or to graduate school in fields such as biology, astronomy, geology, meteorology, or engineering. Still others have found rewarding jobs in industrial or government laboratories, in high-school teaching, and in computer programming. Various combinations are also possible: for example, one recent graduate earned admission to physics graduate school at the University of California at Berkeley, but

deferred his admission for one year to accept a technical internship with a firm in Denmark.

Each year, about one-third of the senior majors participate in the honors program, undertaking a research project of their own choosing. Many select projects related to faculty research, while others pursue independent investigations. The faculty engages in research in a variety of areas, including radio astronomy, nuclear physics, materials physics, and theoretical physics.

During summers and the academic year, many students assist faculty with their lab work. Students recently accompanied a faculty member to Puerto Rico for radio astronomy observations, and to Japan and the Netherlands for nuclear physics experiments.

The physics and astronomy department occupies the Wright Laboratory of Physics, which holds offices, classrooms, teaching and research laboratories, and a machine shop and an electronics shop. The ground floor of Wright was completely renovated in 1993 and now houses an impressive laboratory facility with updated electrical, air, and chilled water services. The upper two floors were renovated in 2001 and 2002. Departmental apparatus includes three high-vacuum stations, an infrared spectrometer, a liquid helium cryostat, a reflecting telescope with a state-of-the-art CCD camera, numerous 60-MHz oscilloscopes, an electrically shielded room, and three computer labs.

The campus computer network, which offers instant Internet access, runs to every room in the building. An X-ray diffractometer is shared with the chemistry department, and there is access to a scanning electron microscope operated by the biology department.

Our department offers a solid academic program and an opportunity for undergraduates to work closely with faculty on interesting research. The physics major may not be the easiest one at Oberlin, but it is certainly one of the most exciting.

COURSE SAMPLING

- ASTR 100 - Introductory Astronomy
- PHYS 110 - Mechanics and relativity
- PHYS 111 - Electricity, Magnetism, and Thermodynamics
- PHYS 212 - Modern Physics
- PHYS 268 - Environmental physics

ABOUT THE FACULTY

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