Physics and Physical Science

School of Natural Sciences
Department of Physics
and Physical Science
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B.S. in Physics
M.S. in Physics
Minor in Physics
Minor in Physical Science
Single Subject Teaching Credential in the Sciences

The fascination of physics is that it is so fundamental: the continuing attempt to understand how things work! It combines observational and experimental grappling with nature to get the facts of behavior, with the creative synthesis of these facts into theories and laws of nature, often beautiful in their simplicity and universality.

Albert Einstein said, "They (the laws of theoretical physics) should form the basis from which a picture of all processes of nature can be derived by thoughtful deduction — and these include also the processes of life." He also said, "The deeper we search, the more we find there is to know, and as long as human life exists, I believe it will always be so."

More specifically, physics includes the study of the fundamental particles that make up nuclear particles, of electromagnetic, gravitational, atomic and nuclear forces, of energy, of light and heat, of electronics and the structure of materials, of the interiors of the earth and the stars.

Faculty and Facilities

Our faculty came here to teach. In addition, some faculty have developed continuing research projects, usually involving students.

Classes are small; our upper-division and graduate classes run from 1 to 15 students. Physics majors get to know each other and our professors personally, often with friendships continuing after graduation.

We have a new medium-energy laser, which greatly increases our capabilities in modern optics, including nonlinear optics, and a new, very flexible X-ray facility that creates many new possibilities in X-ray fluorescence spectroscopy and opens several other fields to us. Our clean room has been improved. In addition, we have well-equipped laboratories for thin film studies, low temperature work, electronics and microcomputer applications, and atomic and nuclear spectroscopy. Further, we have easy access to both mainframe and microcomputers.

Career Opportunities

Half of our bachelor's degree graduates have gone directly into various graduate schools, and the other half have gone to work in industry or government. Our record for admission to medical schools has been outstanding: every physics major who has applied has been accepted over at least the last decade. Four of our graduates are now practicing physicians, one is a dentist, and two more are in medical school.

Now the outlook is even better, with the demand for industrial physicists increasing and a shortage developing for high school physics teachers, at the same time the image and pay of teachers is improving rapidly. Employment usually turns out to be not just a job, but an opportunity for interesting, educational, and exciting work — PHYSICS IS FUN!

Similarly, many of our master's degree graduates have gone on to doctoral studies elsewhere, and others have gone into industry, government, or teaching.

From these students, we hear of increasing levels of responsibility, work on the forefront of knowledge and some entry into management.