GROVE CITY COLLEGE

DEPARTMENT OF PHYSICS

ALBERT A. HOPEMAN, JR. SCHOOL OF SCIENCE, ENGINEERING AND MATHEMATICS

DEPARTMENT FACULTY

Shane C. Brower, Ph.D.
Professor of Physics

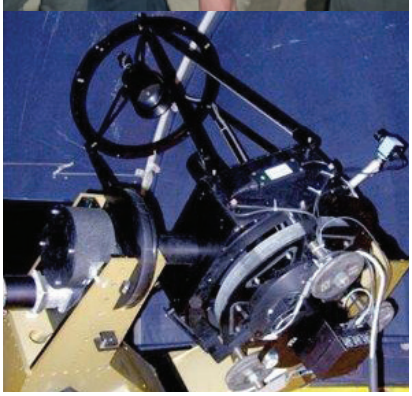
James Clem, Ph.D.
Associate Professor of Physics

Glenn A. Marsch, Ph.D.
Professor of Physics

Doris J. Wagner, Ph.D.
Professor of Physics

Jeffrey P. Wolinski, Ph.D.
Chair, Professor of Physics

> "...There is no stereotypical Grove City College physics student. My colleagues are all pursuing a variety of career interests including medical physics, software engineering, pre-law, chemical physics research, nuclear submarine officer, and physics education."
>
> *– David Lewis '13*



DEPARTMENT DESCRIPTION

Through meaningful research opportunities, innovative teaching and state-of-the-art facilities, students become physicists in the fullest sense. Their search for truth and knowledge extends from the smallest sub-atomic particles to the grandest scales of the universe. All students take a common core of introductory and intermediate physics classes, but are given the freedom to choose upper-level coursework associated with specific concentrations, including physics education, computer hardware design, computer software development, or the 'traditional' physics coursework in preparation for graduate studies in a variety of fields. In addition, the department is currently developing a concentration in biomedical physics.

MAJORS

Physics
A degree in physics prepares students for professional programs, graduate study and immediate employment. In addition to the College core curriculum, students complete 81 credit hours of coursework with significant concentrations in physics and mathematics.

Physics/Computer
A degree in applied physics/computer prepares students for careers computer programming and design, robotics, or graduate programs in a variety of fields. In addition to the College core curriculum, students complete 87-89 credit hours of coursework and choose either a software or hardware concentration.

Physics/General Science Secondary Education
This major is for students pursuing certification to teach physics and general science to grades 7-12. In addition to the 95 credit hours of major coursework, students participate in real-life teaching situations during field experiences and student teaching.

Physics/Secondary Education
This major leads to (7-12) certification in Secondary Physics Education, as well as preparation for graduate studies in physics. In addition to the 113 credit hours of major coursework, students participate in real-life teaching situations during field experiences and student teaching.

MINORS

Physics
Students complete 18 credit hours of course requirements to gain a foundational knowledge of the process of scientific investigation, including modern computational and laboratory methods.

Astronomy
Students complete 21 credit hours of course requirements to minor in astronomy. Students may also participate in astrophysics research using our on-campus and remote observational facilities.

Medical Physics
Students complete 19 credit hours of course requirements to prepare for the growing subfield of medical physics and potential careers in areas such as radiology, nuclear medicine and nuclear engineering.

UNDERGRADUATE RESEARCH OPPORTUNITIES

The department has active research programs in optics, nanotechnology, biophysics, astronomy and physics education, and strongly encourages all students to conduct student-faculty research within the department. The College has two observatories, an on-campus structure housing a 14" Meade reflector and a facility in Edinboro, Pa. with a 0.5-meter remote-controlled Cassegrain telescope. In addition, our on-site laboratory equipment includes a scanning electron microscope with EDX spectrometer, an atomic force microscope, an ultra-fast laser system and a fluorescence spectrometer. We also own a neutron howitzer, which is used in our Radiation Laboratory course. Our students routinely present their research findings at regional and national physics conferences.

PHYSICS COMMUNITY

The department actively fosters a sense of community, and faculty regularly engage students both in and out of the classroom. The chapter of the Society of Physics Students (SPS) hosts a variety of activities throughout the year, both professional and social, providing opportunities for our majors to network with others and develop personal relationships that will last a lifetime. It has been recognized repeatedly with Outstanding Chapter awards, and the Chapter advisor is the former President of the national SPS organization.

INTERNSHIPS

The department has a long history of internships at some of the nation's leading research facilities. Past internships have included optics research in optics at the Universities of Michigan and Rochester, gravity research in Italy and with Cal Tech, medical physics at Hampton University, nanotechnology at the University of South Florida, missile sensors development at Johns Hopkins Applied Physics Lab and electron cloud measurement at Cornell, to name a few.

CAREER AND GRADUATE/PROFESSIONAL OPPORTUNITIES

The broad applicability of a physics degree stems from the universal nature of the analytical problem-solving skills learned in physics coursework. Upon graduation, students are prepared for graduate work in physics and other technical fields, teaching at the secondary level, medical, dental, business or law school, technical sales and more. Past graduates have secured jobs at Carnegie Mellon University, Sensis Inc., Westinghouse, Lincoln Electric, Angel Prison Ministry, Electronic Testing Service, Lockheed-Martin, EQT Corporation, N.S.A., U.S. Customs, the Armed Forces, Intel, Google, Space Telescope Science Institute, Baylor University and others.

CONTACT

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