

Physics | Bachelor of Arts • Bachelor of Science • Minors

Physics is more than the basic science that brings us closest to comprehending the universe and the laws of nature — it is also the foundation for a technological economy. The physics curriculum is an opportunity to learn the power of scientific thinking, to build a respect for evidence, and to see the consistency of natural laws.

PROGRAM FEATURES

We seek to build our students' active curiosity, investigative skills, intellectual independence, and confidence. And we're succeeding: within the past few years, six of our undergraduate students co-authored peer-reviewed papers that were accepted for publication in the proceedings of major research conferences. The department has active research programs in astronomy, materials science, nanotechnology, magnetism, optics, and physics education with developing programs in biophysics and high energy physics. We have collaborative ties with technology-oriented companies in Connecticut to complement our interactions with physics and engineering faculty at nearby Yale and other universities.

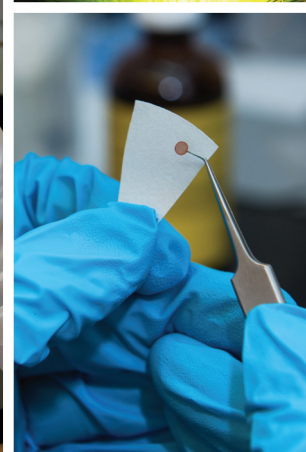
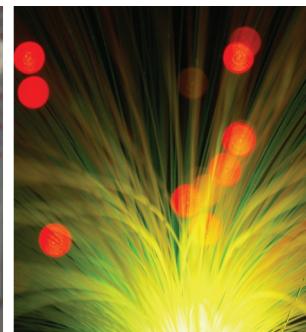
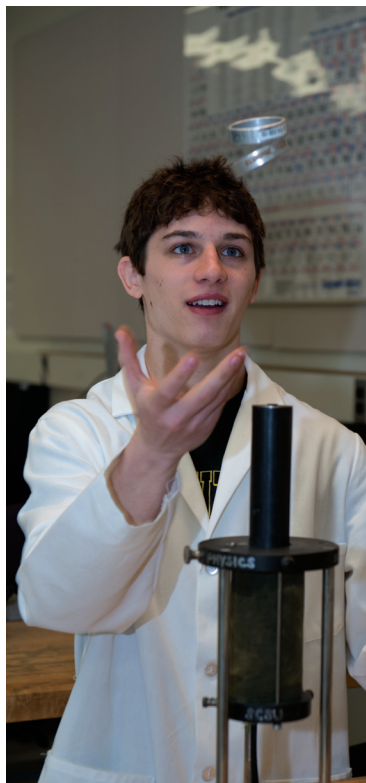
Physics 7-12, B.S. | The B.S. Physics with 7-12 teaching certification is for future Physics teachers. They have the same Physics requirements as the B.S. Physics program, but generally take fewer cognate courses. They also must take a number of educational courses from the College of Education and Science Education department.

Physics, B.A. | This program offers students the greatest flexibility in choosing courses of interest. Imaginative combinations are possible which enable the student to relate the study of physics to wide-ranging areas, such as the social sciences and the fine arts, as well as the other natural sciences. Students who are interested in teaching in elementary schools can double-major in Physics and Elementary Education.

Physics, B.S. – Concentration: General | The General program emphasizes inquiry in depth into the central principles, analytical techniques and key applications of physics. The program requirements form the core of the preparation expected for graduate study in fundamental and applied physics, or for initial positions in physics-based careers.

Physics, B.S. – Concentration: Engineering | This newly instituted program is designed for students whose primary interest is in the applications of physics in engineering and advanced technology. The Engineering Concentration integrates intensive study of the underlying science with training in the practice of engineering. An engineering education requires a solid scientific foundation based on principles of mathematics and physics. Some of the technological fields that require a strong background in physics include materials science, nanotechnology, telecommunications, digital imaging, renewable energy systems and microelectronics. There is also an increasing emphasis on connections among scientific and engineering fields and this degree program provides excellent preparation for an interdisciplinary future.

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Minor in Physics

A minor in physics requires 18 credits of Physics courses and provides students with a core education in classical and modern physics principles, analytic and experimental techniques. Each student builds on that base of knowledge with the selection of two to three electives. The minor in physics serves the interest of any student studying science, mathematics, business, economics and more who wishes to better understand of the physical world. The minor is also well suited for students interested in pursuing professional careers in medicine, the health sciences, and law.

For more information on program requirements, visit Catalog.SouthernCT.edu/undergraduate

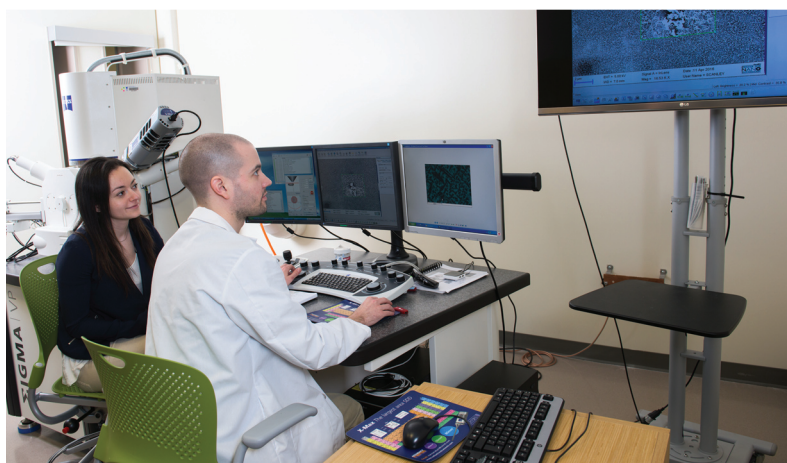
LABORATORIES

We have numerous laboratories equipped with research-grade apparatus:

- Nano-materials synthesis
- Materials characterization by atomic force scanning probe and electron microscopy, spectrophotometry, custom apparatus for measurement of electrical and thermal transport properties (superconductors) at low temperatures
- Advanced sample preparation techniques for transmission and scanning electron microscopy
- Laser spectroscopy, interferometric, fiber optic and other photonics studies
- Astronomical imaging and instrument development
- Computational modelling of exotic magnetic systems and other many body events
- High temperature superconductivity

CAREER OPPORTUNITIES

Our physics students go on to do research, engineering, and systems development in industry or to study advanced physics, materials science, or engineering in graduate school. Some have earned degrees in medicine, which increasingly depends on applied physics. Business and government demand analysts and managers to master complex systems and solve profound problems from telecommunications to global warming.



FOR MORE INFORMATION

Undergraduate Admissions Office

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(203) 392-5644

Admissions@SouthernCT.edu SouthernCT.edu/admissions/undergraduate

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