Physics, Astronomy and Geophysics

Overview

Our program is flexible, so you tailor your studies to fit your interests. You can concentrate in general physics, astrophysics or physics for education, or pursue a five-year, dual-degree program in physics and engineering. Whatever your choice, you work closely with professors and peers on challenging coursework. The low faculty-to-student ratio and the tight-knit, friendly atmosphere in the department ensure you get to know your professors and peers both in and out of class.

Research Opportunities

Long- and short-term research projects are integral to your studies. We offer many opportunities for semester-long independent study projects and multi-year projects, including honors theses. Most students also conduct research with professors. You could co-author or even first author an article in a major journal. Students have traveled as far as Paris, Moscow and Zermatt to do research or present their work, and have attended meetings of the American Association of Physics Teachers, the American Geophysical Union, the American Astronomical Society and the National Conferences on Undergraduate Research.

Facilities

Our research facilities include a 1 MV ion accelerator (one of four at undergraduate institutions in the U.S.), the state’s largest recirculating flume used to replicate flow in natural rivers, a photonics lab where work is being done on the interface of light and electronics, and a 20-inch telescope.

Special Opportunities

You are encouraged to pursue summer internships or research positions either on campus or at other facilities, such as the NASA centers, National Science Foundation-sponsored Research Experience for Undergraduates sites at major universities and national or industrial laboratories. This type of work frequently results in student presentations at national professional meetings or in published papers that are co-authored with research advisers.

Graham Allen
Physics

Q: What made you decide to come to Connecticut College?
A: I was drawn by the small classes in the sciences and music. And Tempel Green and the Arboretum provided a beauty that was and still is unmatched by other NESCAC schools.

Q: What is it like to study science at Connecticut College?
A: In one word: personal. There is an abundance of one-on-one time with each professor for each science class. My average physics class is six people. Lectures feel a lot more like discussions in small classes. Small liberal arts colleges provide the means for undergraduate research, which can be invaluable when applying to graduate school.

Q: What types of research have you done?
A: I worked in Professor Diagne’s photonics lab in the spring semester of my first year and had the good fortune to do metamaterial plasmonics research with a colleague of his at UMass Lowell the following summer. Also, I did laser speckle research for the Sackler Undergraduate Research Program at Yale.
Faculty

Leslie Brown, Associate Professor of Physics
B.A., B.S., University of Delaware; M.A., Ph.D., Brandeis University
BVRI CCD photometry of active galactic nuclei and variable stars; astronomy education and public outreach; space heritage and off-world cultural resources

Mohamed A. Diagne, Oakes Ames Associate Professor of Physics
B.A., Connecticut College; M.S.E.E., Ph.D., Brown University
Free-space optical communication; semiconductor device physics with emphasis on lasers and detectors; plasmonic structures for gas and liquid sensing

Beverly A. Chomiak, Senior Lecturer in Geology; Senior Lecturer in Environmental Studies
B.A., M.S., University of Connecticut; Ph.D., New Mexico Institute of Mining and Technology
Economic geology and geochemistry; geographic information systems (GIS)

Michael N. Monce, Professor of Physics
B.A., University of Colorado; M.S., Colorado State University; Ph.D., University of Georgia
Atomic and molecular physics; ion-molecule collisions; ion-atom collisions

B.V., M.S., Oakes Ames Associate Professor of Physics
B.A., Swarthmore College; M.S.E.E., Ph.D., University of Chicago
General relativity; particle physics; classical field theory; Lorentz symmetry

Michael Seifert, Assistant Professor of Physics
B.A., Swarthmore College; M.S.E.E., Ph.D., University of Chicago
Free-space optical communication; semiconductor device physics with emphasis on lasers and detectors; plasmonic structures for gas and liquid sensing

Doug Thompson, Rosemary Park Professor of Physics, Astronomy and Geophysics
B.A., Middlebury College; M.S., Ph.D., Colorado State University
Geomorphology; hydrology; geology; civil engineering

Michael Weinstein, Senior Lecturer in Physics and Astronomy
Ph.D., The Pennsylvania State University
First-year physics; introductory astronomy lectures and labs

Selected Courses

Solar System Astronomy; Stars, Galaxies and Cosmology; The Origin and Fate of Our Universe; Introduction to Physical Geology; Hydrology; Mining and the Environment; Earth Surface Processes and Landforms; River Environments: Science, Engineering and Management; Modern Science and Technology — Gateway to a New Millennium; Electronics for Scientists; Modern Physics; Digital Design; Classical Mechanics; Thermodynamics and Statistical Mechanics; Electromagnetic Theory

About Connecticut College

Connecticut College educates students to put the liberal arts into action as citizens in a global society. A leader in the liberal arts since 1911, the College is home to nationally ranked programs for internships, community action, arts and technology, environmental studies and international studies. Our beautiful 750-acre arboretum campus is located in the historic New England seaport community of New London, Conn.

WHAT CAN YOU DO WITH A MAJOR IN PHYSICS?

Astrophysicist, NASA
Director of Clinical Operations, Alexza Pharmaceuticals
Vice President for Government Relations, Archer Daniels Midland Co.
Computer Scientist, Naval Undersea Warfare Center
Acoustic Engineer, NASA
Fulbright Scholar, Fulbright Japan
Research Assistant, Harvard College Observatory
Research Associate, Aerodyne Research Inc.
Staff Engineer, United Technologies Research Center
Associate Professor of Physical Chemistry, Wittenberg University
Manager of Technical Staff, Sandia National Laboratory
Software Developer, University of Massachusetts
Chair of Imaging Sciences, University of Rochester
Engineering Manager, Tesla Motors

EXAMPLES OF STUDENT RESEARCH IN PHYSICS

Alex Iezzi ’15
Lahar inundation modeling with the aid of historic flow deposits at Redoubt Volcano, Cook Inlet, Alaska

Clare Murphy-Hagan ’13
The effects of gradient and discharge on culvert outlet scour

Michael Marshall ’11
An analysis of wind resources and the feasibility of wind-energy generation on the Connecticut College campus

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