Chemistry

Overview
We offer small classes, lots of interaction with professors and research opportunities that at many institutions would be limited to graduate students. All of our faculty are engaged in research that incorporates meaningful participation by undergraduates. You can pursue a degree in chemistry or biochemistry with professional certification from the American Chemical Society in either one. We also offer an interdisciplinary major in biochemistry, cellular and molecular biology — a popular choice for pre-med students because it covers most requirements for the Medical College Admissions Test. Most of our chemistry majors go on to graduate programs in the sciences or professional programs in health-related fields.

Research Opportunities
You have many opportunities for research through coursework and summer internships on and off campus. Areas of faculty research include antibiotic biosynthesis and resistance, mechanisms of firefly bioluminescence, computational analysis of fluorescent proteins, organic synthesis of biologically important natural products, and investigations on porous nanoparticles. Work is funded by the National Institutes of Health, the Henry and Camille Dreyfus Foundation, The Research Corp. for Science Advancement, the Air Force Office of Scientific Research and the National Science Foundation. Many students co-author papers with faculty and present their work at major seminars.

Special Opportunities
Our faculty have taken students to study away or conduct research in South Africa, Italy, across the U.S. and in Puerto Rico. You might intern at a local hospital or biotech company, including Pfizer Inc. in nearby Groton, Conn. Special lectures are frequently given on campus by visiting researchers.

Yumi Kovic
ACS Biochemistry

Q: Why Connecticut College?
A: I was drawn by the sense of community. Of the many colleges I toured, no school felt quite the same. This feeling has endured through my years here as I have built close relationships with my peers, professors and advisers.

Q: What is it like to study science at Connecticut College?
A: The most rewarding part is the accomplished, dedicated and inspiring faculty. It is obvious that students are the No. 1 priority, one of the great advantages of our small school. For example, my biochemistry professor often varies her curriculum to accommodate a question or a particular interest a student may have.

Q: Describe your first student-faculty research experience.
A: In my freshman year, I studied nanostructured manganese oxides with Professor Ching. I was able to work independently a majority of the time, which made research a very rewarding and often exciting experience.

Q: What role has the career office played in your experience at Connecticut College?
A: My career adviser has constantly given me the support and inspiration I need to apply to medical school. My adviser and the career office are truly amazing resources for internships, jobs and everyday advice.
What Can You Do with a Major in Chemistry?

Global Product Manager, J.M. Huber Corp.
Lead Energy Specialist, Conservation Services Group
Chemist, U.S. Environmental Protection Agency
Director of Clinical Lab Research, Massachusetts General Hospital
Forensic Chemist, J.M. Huber Corp.
Research Study Assistant, Boston Children's Hospital
Chemist, Florida Department of Agriculture
Principal Scientist, Boehringer Ingelheim
Executive Director, W.M. Keck Foundation
Cardiologist, Seacoast Cardiology
Senior Associate Scientist, Pfizer Inc.
Professor of Chemistry, California Institute of Technology
Project Leader, 3M
Patent Examiner, U.S. Patent & Trademark Office

Examples of Student Research in Chemistry

Victoria Iannarone ’15
Investigation of a tandem 6-exo cyclization/claisen rearrangement sequence as a route to cyclooctane containing bioactive natural products

Jimmy Dang ’15
Studying the conformational changes in bilirubin

Lisa Paulsen ’15
Improving channelrhodopsins for optogenetics

Faculty

Bruce Branchini, Hans and Ella McCollum ’21 Vahlteich Professor of Chemistry
B.S., Lehigh University; M.A., Johns Hopkins University; Ph.D., Johns Hopkins University
Firefly bioluminescence; development of improved reagents for imaging genetic activity; synthesis of bioluminescent compounds; protein nuclear magnetic resonance

Stanton Ching, Margaret W. Kelly Professor of Chemistry
B.A., Pomona College; Ph.D., Northwestern University; Postdoctoral Fellow, University of North Carolina
Inorganic materials chemistry; electrochemistry

Vicki Fontneau, Senior Lecturer in Chemistry
B.S., Florida State University; M.S., University of Hawaii
Protein biochemistry; laboratory safety; chemistry education

Timo V. Ovaska, Hans and Ella McCollum ’21 Vahlteich Professor of Chemistry; Chair of the Chemistry Department
M.S., University of Turku; Ph.D., University of Connecticut
Organic chemistry; development of novel synthetic methodology; synthesis of natural products

Maureen Ronau, Senior Lecturer in Chemistry
B.A., Niagara University; M.A., University of Notre Dame
Analytical chemistry; organic chemistry

Tanya L. Schneider, Assistant Professor of Chemistry
B.A., Williams College; M.S., Ph.D., Yale University; Postdoctoral fellowship, Harvard Medical School
Biochemistry; biosynthesis of natural products; antibiotic resistance; enzymology

Marc Zimmer, Jean C. Tempel ’65 Professor of Physical Sciences
B.S., M.S., University of Witwatersrand, South Africa; Ph.D., Worcester Polytechnic Institute; Postdoctoral fellowship, Yale University
Computational chemistry; fluorescent protein

Jacob Stewart, Assistant Professor of Chemistry
B.A., Brigham Young University; Ph.D., University of Illinois at Urbana-Champaign; Postdoctoral Fellow, Emory University
Physical chemistry; laser spectroscopy; atmospheric chemistry

Selected Courses

Organic Chemistry; Inorganic Chemistry; Medicinal Chemistry; Chemical Thermodynamics; Organic Spectroscopic Methods; Environmental Chemistry; Biochemistry

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.