

# Bachelors in **Biochemistry**

0918



## **WHAT DO STUDENTS LEARN?**

Biochemistry is a discipline that applies the tools and knowledge of chemistry to help solve biological problems. At Chatham, you will learn to use many advanced pieces of equipment used for chemical analysis. You will also learn how to use computers to analyze chemical data and to create models of drug interaction. Beyond the lab, you will develop your written and oral communication skills, critical thinking, and information literacy. You will also learn how to develop a resume and other important skills for applying for jobs or graduate studies.

## **WHAT DO GRADUATES GO ON TO DO?**

Biochemists are needed to work in many fields including biotechnology, environmental analysis, biomedical engineering, and drug development, to name just a few. A biochemistry graduate can go directly to work for a company or government lab upon graduation. Many Chatham biochemistry students choose to pursue graduate studies in medicine, pharmacology, or doctoral programs in the field. According to the US Bureau of Labor Statistics, jobs in biochemistry are expected to grow faster than average for at least the next ten years.

Majoring in biochemistry at Chatham will provide you with the rigorous academic experience that larger institutions only offer to their doctoral students or a select few undergraduates. Most of your classes will be small, and taught by faculty with doctoral degrees in their fields. As a senior, you will participate in a capstone seminar that integrates the knowledge that you've accumulated, and allows you to channel it into a project under close faculty guidance. Many of our students have presented their work at conferences or had work published in journals.



## PROGRAM HIGHLIGHTS

- The Science Complex is Chatham's 10,000 square-foot laboratory building, which features a three-story glass atrium and a modern greenhouse in addition to individual, specialized research spaces; laboratories and classrooms; a range of modern analytical equipment including cell and tissue culture facilities, spectrometers (nuclear magnetic resonance, UV-VIS, IR, etc.), and one of the few drift tube mass spectrometers in the country.
- Enjoy ready access to outdoor areas for fieldwork, including the 388-acre Eden Hall Campus—the world's first academic community built for the study of sustainability, with its woodlands, streams, and research labs.
- Students have the opportunity for hands-on work in our large human cadaver lab.
- You can apply for Research Experiences for Undergraduates (REU) positions, sponsored by the National Science Foundation or others. This program allows undergraduate students to participate in active research projects during the summer before their junior or senior year.
- You can also leverage Pittsburgh's tight-knit academic and medical community through connections our faculty has around the region.
- Chatham has a robust Pre-Med Advising program to support and mentor students interested in applying to medical-related graduate programs.

## SAMPLE COURSES

### Chemical Analysis Laboratory

This laboratory teaches the proper design, implementation and analysis of modern techniques in instrumental chemistry, encompassing spectroscopy, electrochemistry, and separation science. In addition, several inorganic compounds are synthesized and characterized. Student-originated research projects are used extensively throughout this course.

### Environmental Chemistry

This course is an advanced study of the chemical principles underlying common environmental problems. It aims to deepen the student's knowledge of chemistry and its role in the environment and shows the power of chemistry as a tool to help us comprehend the changing world around us.

### Computational Drug Design

Study of computational techniques of importance in contemporary drug design. Topics include molecular docking, ligand binding free energy calculations, de novo drug design, pharmacophore elucidation, quantitative structure-activity relations, and combinatorial library design.

► [www.chatham.edu/biochemistry/curriculum.cfm](http://www.chatham.edu/biochemistry/curriculum.cfm)

## AFTER GRADUATION

Graduate schools to which students have been accepted:

- Duke University
- University of Colorado
- University of Virginia
- University of Pittsburgh
- University of Washington

Places of employment:

- Apex Systems
- Mylan
- RJ Lee Group
- Informa Pharma
- EMSL Analytical, Inc.

## FUNDING

Each year, Chatham runs a Summer Undergraduate Research Program. In addition to giving students experience in laboratory research prior to their capstone seminar, Chatham uses other sources of funding, such as the Hulme Award and the Theo Colburn and Lorin Maazel Awards, to provide money for biochemistry students to travel to professional conferences and to fund their summer travel and research.

## ACCREDITATION

The Chatham Chemistry program is accredited by the American Chemical Society (ACS), a sought-after designation that identifies high-quality academic programs across the nation. This means that Chatham students can receive ACS Certified Degrees in Chemistry and in Biochemistry.

