

Chemistry and Biochemistry



Program Overview

Capital's department of Chemistry and Biochemistry provides students with a strong foundation in chemical content and laboratory, problem solving, and data analysis. The department offers six different majors: chemistry, biochemistry, chemistry, prepharmacy, ACS certified chemistry, chemistry pre-medicine, and a chemistry engineering dual degree. The education department also offers a chemistry major with education licensure, and a science education major with single or dual licensure.

Careers and Placement

Graduates of Capital's department of chemistry and biochemistry typically pursue one of three paths: seek a job in a chemically-related field, obtain a graduate degree (MS, PhD) in science, engineering, or forensics, or pursue professional school (MD, DO, PharmD, etc.). Recent graduates have secured jobs with CAS, Battelle Institute, and Hikma Pharmaceuticals, among others. Other graduates have recently pursued Ph.D. degrees at The Ohio State University, the University of Iowa, Emory University, and more. For professional school, recent graduates have attended the University of Cincinnati's College of Medicine, Ohio University's College of Osteopathic Medicine, Toledo University's College of Medicine, The Ohio State University's School of Optometry and School of Dentistry, and others. A number of pre-professional pathways are also available with your chemistry or biochemistry degree.

Experiential Learning

Peer-Led Team Learning (PLTL) workshops are led in first- and second-year courses. Workshops build knowledge and problem solving skills, and give opportunity to practice teamwork and communication. In both first-year chemistry courses, students also complete at least one Research Experience to Enhance Learning (REEL) lab. These experiences prepare students for traditional research experiences.

Undergraduate Research

Students in the department have the opportunity to participate in faculty-led research projects. Our undergraduate students "own" these projects and work directly with their faculty mentor. Students can also complete research projects for credit during the school year or as paid researchers in the summer as Departmental Scholars or Summer Scholars. Students working on research projects present their findings at Capital University's Symposium on Undergraduate Research, and past students have also presented their work at the Ohio Academy of Science (OAS) Meeting, the National Conference on Undergraduate Research (NCUR), the Central Region Meeting and the National Meeting of the American Chemical Society (ACS), and more. Many of our students have been nominated for Capital University's James and Marlene Bruning Undergraduate Research Award, and two of our students have won the award.

What Our Grads Are Doing Now:

Pharmacist

Research Scientist

Pursuing a Ph.D.

Staff Scientist

Forensic Scientist

Optometrist

You'll Be Prepared To:

- Demonstrate an understanding of chemical principles
- Demonstrate a broad understanding of the disciplines of chemistry
- Communicate chemical information effectively
- Identify and apply proper chemical laboratory practices and safety protocols

Chemistry

Four Year Sample Curriculum

First Year, Fall

Chemical Principles & Lab
Calculus
Signature Learning

Second Year, Fall

Organic Chemistry & Lab
Chemical Analysis & Lab
Physics & Lab
Signature Learning

Third Year, Fall

Inorganic Chemistry
Biochemistry
Chemistry Seminar
Signature Learning

Fourth Year, Fall

Physical Chemistry & Lab
Chemistry Seminar
Signature Learning

First Year, Spring

Chemical Principles & Lab
Calculus
Signature Learning

Second Year, Spring

Organic Chemistry & Lab
Chemical Analysis
Physics & Lab
Signature Learning

Third Year, Spring

General Physics
Chemical Analysis
Oral Exam
Computational Science
Signature Learning

Fourth Year, Spring

Physical Chemistry
Chemistry Seminar
Signature Learning

Biochemistry

Four Year Sample Curriculum

First Year, Fall

Chemical Principles & Lab
Modern Biology & Lab
Calculus
Signature Learning

Second Year, Fall

Organic Chemistry & Lab
Genetics & Lab
Physics & Lab
Signature Learning

Third Year, Fall

Chemical Analysis & Lab
Physical Chemistry & Lab
Biochemistry
Chemistry Seminar
Signature Learning

Fourth Year, Fall

Inorganic Chemistry & Lab
Chemistry Seminar
Biology Elective
Signature Learning

First Year, Spring

Chemical Principles & Lab
Modern Biology & Lab
Calculus
Signature Learning

Second Year, Spring

Organic Chemistry & Lab
Chemical Analysis
Physics & Lab
Signature Learning

Third Year, Spring

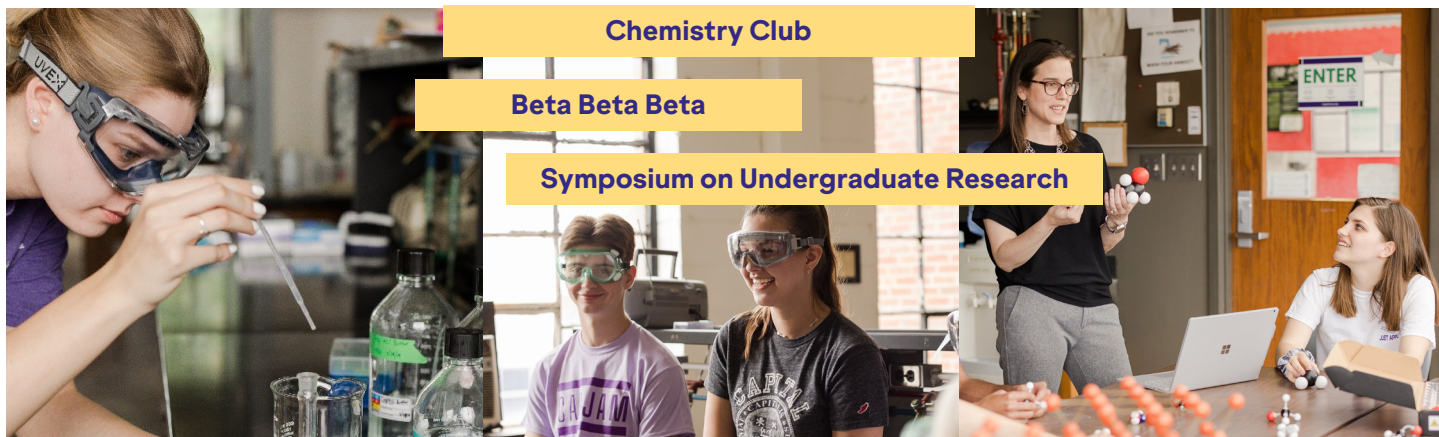
Physical Analysis & Lab
Biochemistry
Computational Science
Signature Learning

Fourth Year, Spring

Chemical Analysis & Lab
Biochemistry Lab
Chemistry Seminar
Signature Learning

Program Specific Organizations

All courses subject to availability and advisor approval. All undergraduates must demonstrate that Signature Learning goals have been met.



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Learn More



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