

Biology Department – Cell and Molecular Biology

Students pursuing a BS in Biology: Cellular and Molecular Biology will study life and cellular processes at the molecular level.

This concentration is highly recommended for students planning to pursue graduate study (MS/PhD) in this field.

Cellular and Molecular Biology explores the organization and function of genes and cells, and how these systems are integrated to lead to the varied forms of life on earth. Students focus on very small things (molecules and cells), which have broad applications in diverse life science fields including medicine, conservation biology, ecology, and agriculture. Cellular and Molecular Biology are fundamental to areas such as discovery of new medicines, developing better crops, diagnosing disease, and understanding the origins of life.

After building a comprehensive background through the Biology core, upper division courses will allow students to explore various specializations in a diverse and rapidly changing field, including genomics, cell biology, developmental biology, microbiology, and immunology. Many of these courses have integrated laboratory components giving students opportunities to learn specialized laboratory techniques including DNA sequence analysis and cloning, cell culture, and bioinformatics.

Course Requirements

2-year Biology core

CHM 252/264 – Organic Chemistry II and Lab

BIO 427 – Molecular Biology OR
BIO 434 – Advanced Cell Biology

BIO 499 – Capstone Seminar

Genomics or Genetics Course
BIO 401, 408, or 442

Two additional courses from the
Cell and Molecular Biology Group

One course from another Group

One additional 300+ Biology
Elective

Career Opportunities

- Molecular Biologist
- Cell Biologist
- Health Professional Programs
- Brewery Production
- Research Technician
- Regulatory Affairs
- Intellectual Property Law
- Teacher
- Forensics
- Pharmaceutical Research
- Journalism/Science Writing
- Agricultural Research
- Bioinformatics

