

# BIOCHEMISTRY AND MOLECULAR BIOLOGY, B.S. (SCIENCE)

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**Begin Campus:** Any Penn State Campus

**End Campus:** University Park

## Program Description

Students in this major apply basic principles of chemistry and physics to the study of living cells and their components to explain biology at molecular, genetic, and cellular levels. Students will develop a strong foundation in quantitative and analytical biological sciences, including molecular biology, biochemistry, enzymology, metabolism, cell biology, and molecular genetics.

### Biochemistry Option

*Available at the following campuses: Berks, University Park*

The Biochemistry Option is offered for students who have interests in the structures, properties and functions of macromolecules, and in the quantitative and analytical techniques used to characterize these macromolecules.

### Molecular and Cell Biology Option

*Available at the following campuses: Berks, University Park*

The Molecular and Cell Biology Option is available to students whose interests relate to the growth, reproduction and differentiation of cells and to signaling processes that occur in multicellular systems that activate and modulate these processes. The curriculum is designed to prepare students for advanced study leading to careers in research, medicine, and education, or to secure employment in biotechnology and health-related industries, including government, academic, and private laboratories.

## What is Biochemistry and Molecular Biology?

Biochemistry and Molecular Biology is the study of the molecular basis of life. Biochemistry uses the principles of chemistry and physics to understand biological molecules, structures, and reactions. Molecular biology focuses on how biological molecules interact to form cells, organisms, and behaviors.

### You Might Like This Program If...

- You like learning by doing experiments.
- You want to know how life works at the most fundamental level.
- You are interested in understanding the molecular basis of health, disease, and behavior.
- You want to learn how molecules can be manipulated to address global challenges such as disease, famine, and energy needs.