



BACHELOR OF ARTS AND BACHELOR OF SCIENCE

# **CHEMISTRY**

*Chemistry is the understanding of the basic properties of matter and how to predict and explain how they change and react to form new substances.*



College of Science and Technology

# CHEMISTRY

## Bachelor of Arts and Bachelor of Science

### Program Choices

Students can pursue a bachelor of arts or a bachelor of science. All chemistry majors take courses in organic, physical and analytical chemistry. The BS offers students the opportunity to delve more deeply into one area. The major emphasizes hands-on laboratory experience that is the hallmark of chemical research. This now includes practicums in computational chemistry, an important new area that offers significant career opportunities. The college follows the Undergraduate Professional Education guidelines of the American Chemical Society.

### Courses include:

- Advanced Inorganic Chemistry
- Advanced Organic Preparations
- Biophysical Chemistry
- Crystallography and Diffraction
- Drug Analysis
- Inorganic Synthesis
- Instrumental Design
- Introduction to Polymer Chemistry
- Investigative Chemistry
- Organic Structures and Mechanisms
- Organic Synthesis
- Physical Chemistry Lab
- Techniques of Chemical Measurement

### Research Opportunities

Real-world, hands-on research means students learn the latest scientific techniques, from the necessary basics to high-tech analysis to potential scientific breakthroughs. External funding for the Chemistry Department has increased significantly over the past five years due to the extraordinary success of the faculty in obtaining research grants. Faculty and students conduct extensive research in both core and interdisciplinary chemistry. Upon successful completion of a research project, students can present their work at the annual Undergraduate Research Program symposium or potentially have their work published in a scientific journal.

### Career Options

The Philadelphia region has the largest concentration of chemical and pharmaceutical companies in the world. While many chemistry graduates go directly into high-paying jobs in the chemical industry or careers in law or business, a significant portion go on to medical school, dental school or prestigious graduate programs.

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