

Requirements for a B.A. in Chemistry Are as Follows:

1. Core chemistry courses listed in previous section
2. Calculus I and II, Physics I and II, Physics Laboratory I and II, Computer Science I
3. General education requirements of the Newark College of Arts and Sciences, and 124 total college credits

Requirements for the B.A. in Chemistry Certified by the American Chemical Society Are as Follows:

1. Chemistry B.A. requirements listed above
2. Biochemistry and one elective graduate course

What High School Preparation Is Recommended When Pursuing a Major in Chemistry?

Exposure to principles of biology, chemistry, and physics, and good grades in mathematics courses.

For What Types of Graduate Programs are Chemistry Students Qualified?

The B.A. degree prepares students for graduate programs in chemistry, medicinal chemistry, polymer, and pharmaceutical chemistry. With additional elective courses in biology, students are also prepared for graduate programs in biochemistry, toxicology, and environmental science.

FOR ADDITIONAL INFORMATION ABOUT THE CHEMISTRY DEPARTMENT, CONTACT:

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Major Requirements listed in this brochure are subject to final department approval.

THE STATE UNIVERSITY OF NEW JERSEY
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CHEMISTRY

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Number of programs offered	2
Number of students in major	41
Average size of upper-level classes	20
Number of undergraduate courses	17
Number of faculty	15

What Is Chemistry?

Chemistry is the study of molecules. Molecules that interest chemists range in size from very small compounds like hydrogen (H₂) to very large compounds like proteins, DNA, and other polymers which may contain thousands of atoms. Chemists search for ways to make molecules, ways to detect specific molecules, and ways to understand the structure, reactivity, and physical properties of molecules.

What Majors Are Offered by the Department?

1. B.A. in chemistry, which provides students with a broad exposure to analytical chemistry, organic chemistry, inorganic chemistry, and physical chemistry.
2. A.C.S. Certified B.A. in chemistry, which is similar to the B.A. in its broad exposure to chemistry, but includes two additional advanced courses in the senior year. This course of study is certified by the American Chemical Society.



Considering a Minor Related to the Chemistry Major?

What Courses Does the Department Recommend?

Fields related to the chemistry major include:

- **Biological Sciences**
- **Physics**
- **Mathematics**
- **Geological Sciences**
- **Computer Science**
- **Business**

What Does the Job Market Offer Graduates with a Major in Chemistry?

Most chemistry graduates find employment as chemists in the pharmaceutical or chemical industries of New Jersey. Some students, after obtaining their B.A. degree, choose to attend graduate programs, with complete financial support, in chemistry or biochemistry, and some join professional programs in pharmacy and business. Other chemistry graduates enter medical or dental schools after completing their B.A. degree.

What Courses are Offered by the Department?

Core Courses

General Chemistry I & II
General Chemistry Laboratory I & II
Organic Chemistry I & II
Organic Chemistry Laboratory
Structure and Bonding
Analytical Chemistry
Physical Chemistry I & II
Physical Chemistry for the Life Sciences
Physical Chemistry Laboratory
Inorganic Chemistry
Synthesis and Characterization
Chemistry Seminar

Elective Graduate Courses

Biochemistry
Chemical Structure Determination
Advanced Organic Chemistry
Thermodynamics and Kinetics
Advanced Inorganic Chemistry
Polymer Chemistry

Courses for Non-science Majors

World of Chemistry I & II
World of Chemistry Laboratory I & II
Organic Biochemistry