



## **GUIDE TO MAJORS AT YESHIVA: CHEMISTRY**

Choosing a major can be stressful, but it is important to understand that you can pursue almost any career regardless of which major you choose. While there are some exceptions, most entry-level positions simply require general transferable skills—those that can be learned in one setting and applied in another. Relevant experience through internships and activities is generally more important to employers than a major. It is best to choose an area that you find interesting and where you have the ability to do well.

### **What is the Chemistry Major?**

The study of chemistry focuses on the structure and properties of substances and their transformations. In lectures and sophisticated lab experiments using the latest technology, students experience the intellectual stimulation of studying a physical science and prepare for graduate study in chemistry, medicine, dentistry, and many other fields.

Chemistry is vital for students interested in medical and health-related careers, which are based on knowledge of the chemical sciences. It is also ideal for students interested in a broad, liberal arts education, with an emphasis on understanding the nature and interactions of the chemicals that make up the world.

### **What can I do with a Major in Chemistry?**

A college graduate with a major in chemistry or biochemistry is prepared for a wide choice of science related careers. Career opportunities exist in the chemical and pharmaceutical industries, the health science fields, environmental protection agencies, and science education.

The chemical and pharmaceutical industries provide opportunities for applied chemical research, while the medicine and the health science fields emphasize the biological aspect of advances in chemistry. Public service-minded individuals might find their niche in environmental protection agencies, consumer advocacy groups, and various government offices. In the field of education, there is a nationwide shortage of science teachers on both the elementary and high school levels which opens up an abundance of teaching opportunities. Some additional career options available to Chemistry majors include:

- Biochemist
- Biotechnologist
- Chemical Engineer\*
- Chemist
- Chemistry Teacher
- Computational Chemist
- Entomologist
- Environmental Engineer
- EPA Inspector
- FDA Inspector

- Fire Protection Engineer
- Food or Agricultural Scientist/Technologist
- Forensic Chemist
- Geochemist
- Oceanographer
- Pharmaceutical chemist
- Pharmaceutical Sales Representative
- Product Development Manager
- Research & Development Manager
- Science Journalist
- Science Laboratory Technician
- Structural Biologist
- Toxicologist
- Water Purification Chemist
- Graduate Study Required
- Patent Lawyer
- Physician
- Pharmacist
- Professor
- Research Scientist

\*Students interested in a career in chemical engineering may consider the combined engineering program with Columbia University's School of Engineering and Applied Science.

### **Skills and Abilities**

Chemistry majors gain expertise in identifying and solving problems. Students learn the nature and interactions of the chemicals that make up the world. Some of the additional skills and abilities cultivated through the Chemistry major include:

- Making critical observations
- Designing experiments, charts, and graphs
- Analyzing data and trends
- Ability to operate complex instruments
- Formulating theories
- Testing hypotheses
- Assessing precision and accuracy
- Sampling for surveys
- Proficiency in reading, writing, and speaking

### **Additional Information**

For those students interested in a career in teaching Chemistry there is a joint B.A./M.A. program in Teaching Math & Science with NYU Steinhardt School of Education. Students must be majoring in Biology, Chemistry, Physics, or Math in order to apply.

### **Joint Program Options**

Nursing- B.A./B.S.N./M.S.N.: Stern College offers combined programs in nursing with John's Hopkins University and New York University. Students complete a Shaped major as well as adjusted Jewish and General Education requirements at Stern College. Credits remaining to complete the Bachelor of Arts degree are counted back from the nursing school. Students are awarded the BSN at the successful completion of the respecting nursing school and have the option of continuing on for a master's degree.

Occupational Therapy- B.A./M.S.: Stern College offers a combined program in OT with Columbia University. During the first three years at Stern College, students complete college requirements and pre-requisites for Columbia's OT program. Students may apply for the 2-year Columbia University program during the fall semester of their junior year. Students are awarded a Bachelor of Arts degree from Stern College after completing the first year at Columbia and then a master's from Columbia after completion of the entire program.

Optometry-B.A./O.C: Stern College and the State University of New York State College of Optometry offer an affiliation program to qualified students through which they can receive an undergraduate degree and a Doctor of Optometry degree in seven years. Students accepted into this program will attend Stern College for three years while they complete their college requirements and prerequisites for the College of Optometry. After the first year at SUNY College of Optometry, students receive their Bachelor of Arts degree. The O.D. degree is awarded after completing the program at SUNY College of Optometry.

Physical Therapy- B.A./D.P.T.: Stern College offers combined programs in Physical Therapy with New York Medical College Graduate School of Health and Sciences and the University of Medicine and Dentistry of New Jersey. During the first three years at Stern College, students complete college requirements and prerequisites for the Doctorate of Physical Therapy program. Students are awarded the Bachelor of Arts degree after completing the first year at the professional school and the D.P.T. at the completion of the three year program.

Teaching Math and Science- B.A/M.A.: Stern College and NYU Steinhardt offer an accelerated option for a master's degree in Mathematics and Science Education. During junior/senior year, students may take up to 14 credits at NYU Steinhardt which will count towards both the undergraduate and graduate degrees. Students pay NYU directly for these credits. YU awards students the Bachelor of Arts degree after completion of all the undergraduate requirements and NYU awards the Master's of Arts degree upon completion of the graduate program.