Earning a degree in Chemistry or Biochemistry from the College of Staten Island provides our graduates with the skills to enter directly into the chemical industry and pursue further education in graduate and medical school. These degrees are essential to anyone interested in working in the chemical or pharmaceutical industries and in related fields such as teaching and chemical sales. The degree affords the opportunity to participate in pure chemical research, product development, marketing, and sales.

A student with a BS in Chemistry may branch out and become involved in government jobs in geochemistry, toxicology, and environmental chemistry. The Chemistry major also might elect to work in the more medically oriented fields such as pharmacology, biochemistry, bioengineering, or medicinal chemistry or to enter the teaching profession. For students who wish to pursue graduate study in the sciences or enter professional schools (medicine, dentistry, optometry, pharmacy), admissions committees view a BS degree in Chemistry or Biochemistry quite favorably.

The Major
Our chemistry students graduate with a B.S. in Chemistry, a field whose curriculum is quite rigorous and requires that students register for an intensive course load during each semester, to graduate within four years. To major in Chemistry, students must pass courses in General Chemistry, Physics, Calculus, and Analytic Geometry. Upon passing these classes, those who continue on to pursue the Chemistry BS must pass Organic Chemistry and Physical Chemistry classes, in addition to higher level Chemistry electives.

Prerequisites
Students planning to major in Chemistry must complete the following requirements:

Chemistry Sequence
CHM 141 General Chemistry I
CHM 121 General Chemistry I Laboratory
CHM 142 General Chemistry II
CHM 127 General Chemistry II Laboratory

Physics Sequence
PHY 120 General Physics I
PHY 121 General Physics I Laboratory
PHY 160 General Physics II
PHY 161 General Physics II Laboratory

Math Sequence: Option 1
MTH 229 Calculus Computer Laboratory
Either
MTH 230 Calculus I and Pre-Calculus
OR
MTH 231 Analytic Geometry and Calculus I
AND
MTH 232 Analytic Geometry and Calculus II
MTH 233 Analytic Geometry and Calculus III

Math Sequence: Option 2
MTH 229 Calculus Computer Laboratory
MTH 235 (MTH 235 Accelerated Calculus I, Mathematics Minor) Accelerated Calculus I
MTH 236 Accelerated Calculus II

Required Courses for the Major
Students are required to pass the following courses in order to graduate with a Chemistry BS.

CHM 240 Quantitative Chemistry
CHM 250 Organic Chemistry I
CHM 256 Organic Chemistry II
CHM 330 Physical Chemistry: Equilibria
CHM 336 Physical Chemistry: Processes
CHM 337 Experimental Methods in Physical Chemistry
CHM 380 Inorganic Chemistry
AND
Two (2) additional Chemistry electives at the 300 or 400 level

Research with Our Renowned Faculty
Students of the College of Staten Island work alongside faculty members and participate in their research as early as sophomore year, creating numerous opportunities for co-authorship. These early experiences distinguish CSI Chemistry and Biochemistry majors and allow them to foster meaningful mentorships.

Our faculty are highly distinguished and have received over $2 million in grants within the last two years.

What Can I Do With a Degree in Chemistry?
Chemistry majors learn to think creatively, troubleshoot complex problems, perform detailed analyses, and make decisions based on research. These skills are highly valuable in any workplace, and have applications in virtually every field.

About 25% of students who major in chemistry work as chemists. Without chemists, we wouldn’t have clean water, medicines, synthetic fabrics, or many of the foods in our refrigerators. A chemistry degree can provide a background to pursue a career which can impact lives of people throughout the world.

It’s common for chemistry majors to attend graduate school after they complete their undergraduate studies. These graduates make great candidates for medical school, optometry school, dental school, pharmacy school, and veterinary school. Since chemistry majors develop strong research skills, they are also successful in law school, and many go on to work as patent lawyers.

Source: Alljobopenings.com, Jan. 2015
Honors

Students who enter their senior year with at least a 3.50 GPA may pursue honors in Chemistry. With the support of a faculty supervisor, the student must submit a one-page summary of a proposed research project. The chairperson of the Department and the faculty supervisor will appoint a three-member committee to evaluate and/or modify the proposal and then grant or deny admission to the honors program. It is highly recommended that the student submits this proposal at least a year in advance of their expected graduation date, so that the student can begin his/her research during the spring or summer semester preceding his/her senior year.

While pursuing honors research, the student may receive eight credits for Independent Study (CHM 594), four each in the fall and spring semesters. Progress of the research will be monitored throughout the semesters. At the conclusion of the project, in May, the student will present an oral defense of the thesis to the committee by the end of the final exam period.

Graduate Studies in Chemistry

Students may pursue a Doctorate in Polymer Chemistry jointly at the College of Staten Island and the CUNY Graduate Center. Doctoral lecture courses and seminars are held at the Graduate Center, while doctoral research and laboratory courses are conducted here at the College of Staten Island, creating a unique interdisciplinary and collaborative research environment. Doctoral candidates may consult with the Polymer Chemistry faculty advisor for questions about the required courses, how to integrate courses from other specializations into their studies, and research opportunities.

Careers for Chemistry Majors

Below is a list of common career choices for graduates with a degree in chemistry. This is not a comprehensive list (Chemistry majors do many different things!), but it should give you a good idea of the types of careers that would be available to you with a Chemistry degree.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Median Salary</th>
<th>Required Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemist</td>
<td>$84,320</td>
<td>Doctoral Degree</td>
</tr>
<tr>
<td>Biomedical Engineer</td>
<td>$88,670</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Chemical Engineer</td>
<td>$95,730</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Chemist</td>
<td>$72,350</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>College Professor</td>
<td>$72,670</td>
<td>Master's Degree</td>
</tr>
<tr>
<td>Dentist</td>
<td>$146,340</td>
<td>Doctoral Degree</td>
</tr>
<tr>
<td>Food Scientist</td>
<td>$59,630</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Forensic Science Technician</td>
<td>$54,360</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>High School Teacher</td>
<td>$55,360</td>
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</tr>
<tr>
<td>Laboratory Technologist</td>
<td>$58,430</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Medical Scientist</td>
<td>$79,840</td>
<td>Doctoral Degree</td>
</tr>
<tr>
<td>Middle School Teacher</td>
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<td>Bachelor's Degree</td>
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<tr>
<td>Occupational Health Specialist</td>
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<td>Bachelor's Degree</td>
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<tr>
<td>Pharmacist</td>
<td>$119,280</td>
<td>Doctoral Degree</td>
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<tr>
<td>Physician Assistant</td>
<td>$92,970</td>
<td>Master's Degree</td>
</tr>
<tr>
<td>Radiologic Technologist</td>
<td>$55,200</td>
<td>Doctoral Degree</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>$66,220</td>
<td>Associate’s Degree</td>
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<tr>
<td>Surgeon</td>
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<td>Doctoral Degree</td>
</tr>
<tr>
<td>Veterinarian</td>
<td>$86,640</td>
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</tr>
<tr>
<td>Veterinary Technician</td>
<td>$30,500</td>
<td>Associate’s Degree</td>
</tr>
</tbody>
</table>


A Biochemistry major conducts an experiment. For students who wish to enter professional schools in medicine, dentistry, optometry and pharmacy, a BS in Biochemistry or Chemistry is viewed favorably by graduate admissions committees.