

Chemistry and Physics

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Department Mission

Within the context of liberal education, the department provides courses to expose students to the information, knowledge, and methods that the physical sciences have to offer. In general, the purpose of the major is to prepare students for graduate and professional schools as well as for careers in the chemical, biotechnical or pharmaceutical industries. The department encourages Chemistry majors to fully explore the chemical sciences and allied fields through participation in research, seminars, and science-based clubs and activities. Department advisors assist students in exploring career possibilities and in devising a personalized plan of study that will best prepare them for their career goals.

Goals and Objectives

- *Provide chemistry majors with a solid foundation in chemistry and physics that will allow them to continue their study of chemistry at the graduate level.*
- *Provide students interested in the health professions with the necessary background in chemistry and physics.*
- *Develop students' ability to engage in scientific inquiry using critical and logical thinking.*
- *Instruct students in correct laboratory procedures and assist them in developing an understanding of modern science and technology using state-of-the-art instrumentation.*
- *Provide non-science majors with the opportunity to acquire knowledge of materials and technology as explained through the physical sciences.*

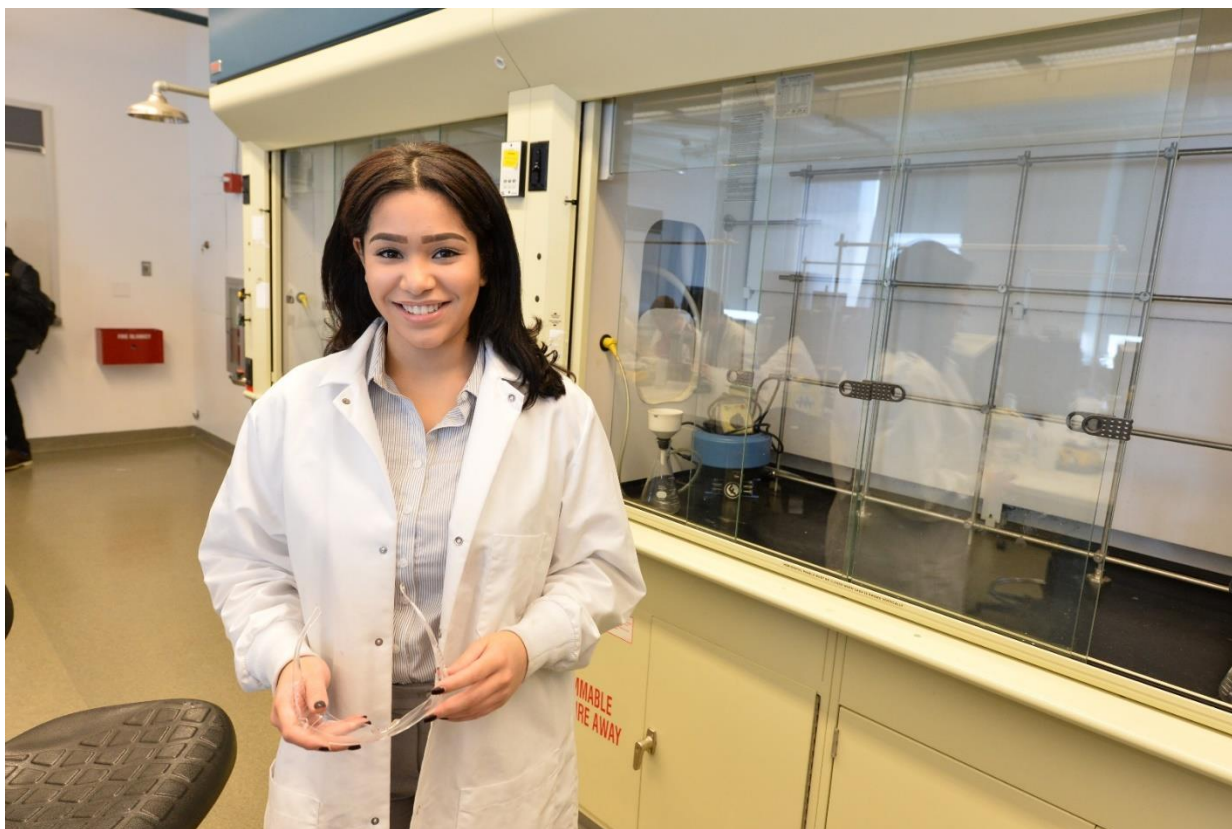
Major in Chemistry

The major in Chemistry provides student with excellent preparation for medical school and other professional schools, graduate

studies, teaching, research, laboratory work, and a variety of other science-related opportunities.

Courses	Credits	Prerequisite(s)	Co-Requisite(s)
General Education Program (see page 15)	52		
First Year College			
Bodies of Knowledge			
▶ NPW - Take BIO 1201 General Biology I (5 crs)			
▶ NPW - Take BIO 1202 General Biology II (5 crs)		BIO 1201	
CHE 1201 General Chemistry I	5		MAT 1105 or higher
CHE 1202 General Chemistry II	5	CHE 1201	MAT 1107 or higher
CHE 2050 Analytical Chemistry	4	CHE 1202	
CHE 2101 Organic Chemistry I	5	CHE 1202	
CHE 2102 Organic Chemistry II	5	CHE 2101	
CHE 2301 Inorganic Chemistry	4	CHE 1202	
CHE 3001 Biochemistry	4	CHE 2102	
CHE 4001 Physical Chemistry I	4	CHE 2102 MAT 2203 PHY 2002	
CHE 4002 Physical Chemistry II	4	CHE 4001	
CHE 4050 Instrumental Methods of Analysis	4	CHE 2050 and CHE 4001	
CHE 4998 Senior Project	3	Chairperson's approval	
MAT 2202 Calculus I	4	MAT 1107	
MAT 2203 Calculus II	4	MAT 2202	
PHY 2001 General Physics I	4	MAT 1107	
PHY 2002 General Physics II	4	PHY 2001	
General electives ¹	9		
Total credits required	124		

¹ All majors are advised to gain computer and/or second language proficiency.



Major in Chemistry – Concentration in Information Technology (IT)

In addition to the traditional chemistry major above, the department recognizes the fast developing field of IT and its career opportunities. The chemistry major with a concentration in IT is

designed to expose the student to computational resources which would enable knowledge of collecting, disseminating, and analyzing observational or experimental data, or data from models or simulations in scientific research.

Courses	Credits	Prerequisite(s)	Co-Requisite(s)
General Education Program (see page 15)	52		
First Year College			
Bodies of Knowledge			
➔ NPW - Take BIO 1201 General Biology I (5 crs)			
➔ NPW - Take BIO 1202 General Biology II (5 crs)		BIO 1201	
CHE 1201 General Chemistry I	5		MAT 1105 or higher
CHE 1202 General Chemistry II	5	CHE 1201	MAT 1107 or higher
CHE 2050 Analytical Chemistry	4	CHE 1202	
CHE 2101 Organic Chemistry I	5	CHE 1202	
CHE 2102 Organic Chemistry II	5	CHE 2101	
CHE 2301 Inorganic Chemistry	4	CHE 1202	
CHE 3001 Biochemistry	4	CHE 2102	
CHE 4001 Physical Chemistry I	4	{ CHE 2102 MAT 2203 PHY 2002	
CHE 4050 Instrumental Methods of Analysis	4	CHE 2050, CHE 4001,	
CHE 4998 Senior Project	3	Chairperson's approval	
PHY 2001 General Physics I	4	MAT 1107	
PHY 2002 General Physics II	4	PHY 2001	
MAT 2202 Calculus I	4	MAT 1107	
MAT 2203 Calculus II	4	MAT 2202	
IT 1103 Computer-Based Information Systems	3	IT 1001	
IT 1104 Programming I	3	IT 1001	
IT 2410 Web Design	3	IT 1001	
IT 2510 Database Management Systems	3	IT 1103	
IT 2550 Medical Informatics	3	IT 1001	
Total credits required	126		

¹ All majors are advised to gain computer and/or second language proficiency.

Minor in Chemistry

The major in Chemistry provides student with excellent preparation for medical school and other professional schools, graduate studies, teaching, research, laboratory work, and a variety of other science-related opportunities.

Courses	Credits	Prerequisite(s)	Co-Requisite(s)
CHE 1201 General Chemistry I	5		MAT 1105 or higher
CHE 1202 General Chemistry II	5	CHE 1201	MAT 1107 or higher
CHE 2101 Organic Chemistry I	5	CHE 1202	
CHE 2102 Organic Chemistry II	5	CHE 2101	
CHE 3002 Bio-Analytical Chemistry	4	{ CHE 2102 PHY 2002	
Total credits required	24		