

# Chemistry Major

## CHEMISTRY MAJOR

### **Student Learning Outcomes**

Upon completion of the Chemistry major, students will be able to:

1. Identify, describe, and explain the basic terminology, concepts, methodologies and theories used within chemistry [Content].
2. Analyze information and develop reasoned based solutions to problems using the processes and applications of scientific inquiry using ethical behaviors [Critical Thinking].
3. Communicate knowledge, ideas, and reasoning clearly and effectively in written and oral forms appropriate to the science of chemistry [Communication].

### **Program Outcomes**

As a result of successful completion of the Chemistry Program, graduates will:

1. Matriculate to graduate and professionals schools or accept employment within the field of chemistry.
2. Have participated in an extracurricular research experience.
3. Pass the Senior Exit Examination on the first attempt.

### **Program: Chemistry**

**Type:** Bachelor of Science

## Major in Chemistry

### Required courses for the major in Chemistry

The major in Chemistry consists of a minimum of thirty-three (33) credit hours in CHM and sixteen (16) hours of cognate courses in Physics and Calculus.

Item #	Title	Credits
CHM 141 4	General Chemistry I	
CHM 142 4	General Chemistry II	
CHM 247 4	Analytical Chemistry I	
CHM 248 4	Analytical Chemistry II	
CHM 343 4	Organic Chemistry I	
CHM 344 4	Organic Chemistry II	
CHM 420 2	Seminar in Chemistry	
PHY 243 4	Physics I	
PHY 244 4	Physics II	
MAT 145 4	Calculus I	
MAT 146 4	Calculus II	
	Sub-Total Credits	
42		

## Physical Chemistry or Biochemistry Sequence

For the Chemistry major, students must select between a sequence in Physical Chemistry or Biochemistry:

- CHM 345 and 346

OR

- BIO 343 and BIO 434

Item #	Title	Credits
CHM 345 4	Physical Chemistry I	
CHM 346 4	Physical Chemistry II	
BIO 343 4	Biochemistry I	
BMS 434 3	Biochemistry II Metabolic Pathways & Clinical Applications	
	Sub-Total Credits	
15		

## Minor in Chemistry

### Required courses for the minor in Chemistry

A minor in chemistry consists of a minimum of 20 credit hours. The following courses are required for a minor in chemistry:

Item #	Title	Credits
CHM 141 4	General Chemistry I	
CHM 142 4	General Chemistry II	
CHM 343 4	Organic Chemistry I	
CHM 344 4	Organic Chemistry II	
4	Chemistry Elective	
20	Sub-Total Credits	

## Major in Chemistry FRESHMAN YEAR Fall Semester

Item #	Title	Credits
CHM 141 4	General Chemistry I	
MAT 131 3	Algebra	
ENG 131 3	English Composition I	
REL 131 3	Introduction to the Old Testament	
STI 111 1	Orientation	
14	Sub-Total Credits	

## FRESHMAN YEAR Spring Semester

Item #	Title	Credits
CHM 142 4	General Chemistry II	
MAT 134 3	Pre-Calculus	
ENG 132 3	English Composition II	
REL 132 3	Introduction to the New Testament	
CSC 121 2	Critical Thinking in Digital Age	
STI 114 1	Orientation II	
	Sub-Total Credits	16

## SOPHOMORE YEAR Fall Semester

Item #	Title	Credits
CHM 343 4	Organic Chemistry I	
MAT 145 4	Calculus I	
PHY 243 4	Physics I	
HIS 131 3	Foundations of World Civilization	
BUS 210 1	Financial Literacy	
	Sub-Total Credits	16

## SOPHOMORE YEAR Spring Semester

Item #	Title	Credits
CHM 344 4	Organic Chemistry II	
MAT 146 4	Calculus II	
PHY 244 4	Physics II	
HUM 130 3	African American Heritage	
HPR 121 2	Lifetime Wellness	
	Sub-Total Credits	
17		

## JUNIOR YEAR Fall Semester

Item #	Title	Credits
CHM 247 4	Analytical Chemistry I	
MAT 233 3	Introduction to Statistics	
	200/300-level Religion	
3		
ENG 235 3	Technical Writing	
LOG 330 3	Logic	
	Sub-Total Credits	
16		

## JUNIOR YEAR Spring Semester

Item #	Title	Credits
CHM 248 4	Analytical Chemistry II	
SPE 232 3	Public Speaking	
3	200/300-level Religion	
3	Social Science Elective	
EDU 310 1	Test Taking Strategies	
14	Sub-Total Credits	

## SENIOR YEAR Fall Semester

Item #	Title	Credits
CHM 345 4	Physical Chemistry I	
CSC 131 3	Introduction to Computing	
CHM 439 3	Advanced Inorganic Chemistry	
2	General Elective (2 credits)	
12	Sub-Total Credits	

## SENIOR YEAR Spring Semester

Item #	Title	Credits
CHM 346 4	Physical Chemistry II	
CHM 420 2	Seminar in Chemistry	
CHM 432 3	Organic Qualitative Analysis	
3	General Elective (3 credits)	
3	General Elective (3 credits)	
15	Sub-Total Credits	

## Category Descriptions

### Chemistry Elective

Credits: 4

Item #

Off