

BA in Chemistry

Degree Program Description

Chemistry is the study of matter and substances in order to understand, explain, and predict how substances change. The BA degree is designed for those students who desire a more general education than that provided by the BS degree, but nonetheless are seeking a degree in chemistry. Most chemistry majors continue their education in graduate school or professional school. Many of our graduates are now physicians or have teaching and research careers at universities and colleges. Other graduates are managers in industry and specialists in their fields. This degree also may be appropriate for students in pre-professional programs (pre-medicine, pre-dentistry, pre-pharmacy, and pre-law).

Major Program Requirements

Department Level Requirements (<https://catalog.missouri.edu/collegeofartsandscience/chemistry/chemistry-major-requirements/>) must be completed in addition to University (<https://catalog.missouri.edu/academicdegreerequirements/universityrequirements/>), general education (<https://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/>), and College of Arts and Science (<https://catalog.missouri.edu/collegeofartsandscience/#undergraduatetext>) requirements. Students must also meet the following major program requirements. All major requirements in the College of Arts and Science must be completed with grades of C- or higher unless otherwise indicated.

Students should consult with a chemistry advisor to schedule science and mathematics requirements in the appropriate order. Note that for a number of chemistry courses there is a prerequisite of a grade of C or better in a previous course. Please see the Associate Chair for Undergraduate Studies for assignment of an advisor.

Note that students pursuing a BS degree with a major in Chemistry may opt to satisfy the foreign language requirement through alternative course work consisting of no fewer than 12 credits numbered 2000 or above.

Major Core Requirements

CHEM 1400 & CHEM 1401	College Chemistry I and College Chemistry I Laboratory	4
CHEM 1410 & CHEM 1411	College Chemistry II and College Chemistry II Laboratory	4
CHEM 2100	Organic Chemistry I	3
CHEM 2110	Organic Chemistry II	3
CHEM 2130	Organic Laboratory I	2
CHEM 2140	Organic Laboratory II	2
CHEM 2400	Fundamentals of Inorganic Chemistry with Lab	3
CHEM 3200	Quantitative Methods of Analysis with Lab	4
CHEM 3700W	Undergraduate Seminar in Chemistry - Writing Intensive	3
MATH 1500	Analytic Geometry and Calculus I	5
MATH 1700	Calculus II	5
Total Credits		38

Degree Requirements

CHEM 4310	Physical Chemistry I	3
PHYSICS 1210	College Physics I	4
or PHYSICS 2750	University Physics I	
PHYSICS 1220	College Physics II	4
or PHYSICS 2760	University Physics II	
Collateral Courses		12
Additional course work at the 2000-level or higher outside of chemistry. For example: biological sciences, mathematics, biochemistry or business		
Total Credits		23

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year			
Fall	CR	Spring	CR
MATH 1500 (Math and Quantitative Reasoning)*		5 CHEM 1410 & CHEM 1411	4
CHEM 1400 & CHEM 1401		4 MATH 1700	5
Missouri State Law Requirement: Social Science from Arts and Science*		3 Behavioral Science from Arts and Science*	3
English 1000*		3 Humanities; First Writing Intensive	3
		15	15
Second Year			
Fall	CR	Spring	CR
CHEM 2100		3 CHEM 2110	3
PHYSICS 1210 (Biological or Physical Science Lab)		4 CHEM 2130	2
Social Science; Arts and Science Diversity Requirement*		3 PHYSICS 1220	4
Humanities from Arts and Science*		3 Behavioral Science; 3000+ Level*	3
Second major, minor, certificate, or elective*		3 Second major, minor, certificate, or elective*	3
		16	15
Third Year			
Fall	CR	Spring	CR
CHEM 3200		4 CHEM 2140	2
CHEM 2400		3 CHEM 3700W	3
Collateral Area Course; 2000+ Level		3 Collateral Area Course; 2000+ Level	3
Second Language		4 Second Language	4
Second major, minor, certificate, or elective*		1 Second major, minor, certificate, or elective*	3
		15	15
Fourth Year			
Fall	CR	Spring	CR
CHEM 4310		3 Collateral Area Course; 2000+ Level	3
Collateral Area Course; 2000+ Level		3 Social Science; 3000+ Level*	3

Second Language	4 Humanities; 3000+ Level*	3
Humanities; 3000+ Level*	3 Second major, minor, certificate, or elective	3
Second major, minor, certificate, or elective*	3 Second major, minor, certificate, or elective	1
	16	13

Total Credits: 120

* Courses satisfy certain University general education
(<https://catalog.missouri.edu/academicdegree/requirements/generaleducationrequirements/>) requirements.