

CHEMISTRY, B.A.

The Bachelor of Arts degree program in chemistry provides a background in chemistry. This program will prepare one for a career in chemical and related industries, forensic and environmental science, and secondary science education. This program is also appropriate for medical, dental, optometric, osteopathic, law, and pharmacy schools.

There are no requirements for admission to this degree track, but students are encouraged to begin taking science and math courses as early as possible in their academic careers.

Code	Title	Credits
Required		
CHEM 105	General Chemistry I Lecture	3
CHEM 1105	General Chemistry Recitation/Laboratory	2
CHEM 106	General Chemistry II Lecture	3
CHEM 1106	General Chemistry II Recitation/Laboratory	2
CHEM 207	Organic Chemistry I	3
CHEM 2207	Organic Chemistry I Laboratory	1
CHEM 208	Organic Chemistry II	3
CHEM 2208	Organic Chemistry II Laboratory	1
CHEM 205	Analytical Chemistry Lec	3
CHEM 2205	Analytical Chemistry Laboratory	2
CHEM 316	Instrumental Analysis, Lecture	3
CHEM 3316	Instrumental Methods of Analysis, Laboratory	2
CHEM 305	Physical Chemistry I	3
CHEM 307	Biochemistry I	4
CHEM 405	Seminar	1
CHEM 416	Inorganic Chemistry	3
Elective		
Select a minimum of three credits from the following courses:		3
CHEM 306	Physical Chemistry II, Lecture	3
CHEM 430	Spectroscopic Identification of Organic Compounds	3
CHEM 401	Medicinal Chemistry	3
CHEM 412	Inorganic Chemistry Laboratory	2
CHEM 414	Advanced Organic Chemistry	3
CHEM 425	Nanomaterial and Microelectronic Fabrication	3
CHEM 435	Materials Chemistry	3
Required Supporting Courses in Math, Physics and Computer Science:		19
MATH 192	Calculus and Analytic Geometry I	4
MATH 193	Calculus and Analytic Geometry II	4
PHYS 140	Principles of Physics I - Lecture	3
or PHYS 130	College Physics I (Lecture)	
PHYS 1140	Principles of Physics I - Laboratory and recitation	1
or PHYS 1130	Physics I Recitation & Laboratory	
PHYS 141	Principles of Physics II - Lecture	3
or PHYS 131	Physics II (Lecture)	
PHYS 1141	Principles of Physics II - Laboratory and Recitation	1

or PHYS 1131	Physics II Recitation & Laboratory	
or Sequence II:		
INTD 180	Computer Tools For Science and Mathematic Majors	3
Total Credits		100
Course Title Credits		
Freshman		
Semester 1		
ENGL 101	English Composition I	4 - 6
or ESL 101	or English Composition I for English as a Second Language Students	
MATH 192	Calculus and Analytic Geometry I	4
CHEM 100	Preparation for General Chemistry (*Can test out of CHEM 100)	3 - 5
or CHEM 105	or General Chemistry I Lecture	
and	and General Chemistry Recitation/ Laboratory	
CHEM 1105		
General Education Tier I Course		3
Credits		14-18
Semester 2		
ENGL 102	English Composition II	4 - 6
or ESL 102	or English Composition II for English as a Second Language Students	
MATH 193	Calculus and Analytic Geometry II	4
CHEM 106	General Chemistry II Lecture	3
CHEM 1105	General Chemistry Recitation/Laboratory	2
General Education Tier I Course		3
Credits		16-18
Sophomore		
Semester 1		
CHEM 207	Organic Chemistry I	3
CHEM 2207	Organic Chemistry I Laboratory	1
PHYS 130	College Physics I (Lecture)	3
or PHYS 140	or Principles of Physics I - Lecture	
PHYS 1130	Physics I Recitation & Laboratory	1
or PHYS 1140	or Principles of Physics I - Laboratory and recitation	
INTD 180	Computer Tools For Science and Mathematic Majors	3
General Education Tier I Course		3
Credits		14
Semester 2		
CHEM 208	Organic Chemistry II	3
CHEM 2208	Organic Chemistry II Laboratory	1
PHYS 131	Physics II (Lecture) ()	3
or PHYS 140	or Principles of Physics I - Lecture	
PHYS 1131	Physics II Recitation & Laboratory	1
or PHYS 1141	or Principles of Physics II - Laboratory and Recitation	
General Education Tier II Course		3
General Education Tier II Course		3
Elective or Minor Course		3
Credits		17

Junior**Semester 1**

CHEM 205	Analytical Chemistry Lec	3
CHEM 2205	Analytical Chemistry Laboratory	2
MATH 311	Differential Equations for Engineers	4
General Education Tier II Course		3
General Education Tier II Course		3
Credits		15

Semester 2

CHEM 316	Instrumental Analysis, Lecture	3
CHEM 3316	Instrumental Methods of Analysis, Laboratory	2
CHEM 307	Biochemistry I	4
General Education Tier II Course		3
Elective or Minor Course		3
Credits		15

Senior**Semester 1**

CHEM 305	Physical Chemistry I	3
CHEM 416	Inorganic Chemistry	3
CHEM 405	Seminar	1
Chemistry Elective 3XX or 4XX		3-4
General Education Tier II Course		3
Minor or Elective Course		3
Credits		16-17

Semester 2

General Education Tier III Course		3
Elective or Minor Course		3
Elective or Minor Course		3
Elective or Minor Course		3
Elective or Minor Course		3
Credits		15
Total Credits		122-129

*To test out of CHEM 100, students must contact the Chemistry Department. Students who take CHEM 100 are recommended CHEM 106/ CHEM 1106 in first summer session. CHEM 100 will replace an elective within their major.

Student Learning Outcomes:

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

1. Identify the fundamental concepts in: general, organic, inorganic, analytical, physical and biological chemistry.
2. Quantitatively and qualitatively describe molecular behavior.
3. Design and conduct laboratory experiments, perform calculations, and interpret results to draw reasonable conclusions.
4. Demonstrate discipline-specific writing skills.
5. Use modern library searching and retrieval methods to obtain information about a topic, chemical, chemical technique.