BS in Biochemistry
American Chemical Society Accredited

2018 – 2019 Catalog
Total Credit Hours Required: 120
Advanced Credit Hours Required: 36 (3000 level or above)

Required Chemistry Courses

General Chemistry
___ 1341/1181 General Chemistry I and Lab
___ 1342/1182 General Chemistry II and Lab (Prereq: CHEM 1341/1181)

Organic Chemistry
___ 2321 Organic Chemistry I (Prereq: CHEM 1342/1182)
___ 2343 Synthesis and Analysis Lab I (Coreq: CHEM 2321/2335)
___ 2322 Organic Chemistry II (Prereq: CHEM 2321/2343)
___ 2144 Synthesis and Analysis Lab II (Coreq: CHEM 2322)

Quantitative Chemistry
___ 2335 Quantitative Chemistry (Prereq: CHEM 1342/1182, Precal)

Physical Chemistry
___ 3321 Physical Chemistry I (Prereq: CHEM 2335,
  8 hours physics, MATH 2326)
  (Concurrent: MATH 3319 encouraged)
___ 3181 Physical Chemistry I Lab (Coreq: CHEM 3321)
___ 3322 Physical Chemistry II (Prereq: CHEM 2335,
  8 hours of physics, MATH 2326)
___ 3182 Physical Chemistry II Lab (Coreq: CHEM 3322)

Inorganic Chemistry
___ 3 hours from:
   3317 Inorganic Chemistry I (Pre/Coreq: CHEM 2322)
   4318 Inorganic Chemistry II (Prereq: CHEM 2322)

Biochemistry
___ 4311 Biochemistry I (Prereq: CHEM 2322)
___ 4242 Lab Techniques in Biochemistry (Prereq: CHEM 4311)
___ 4312 Biochemistry II (Prereq: CHEM 4311)
___ 4314 Enzymology (Prereq: CHEM 4311)
___ 3 hours from:
   4313 Metabolism and Regulation (Prereq: CHEM 4312)
   4316 Biochemical Genetics (Prereq: CHEM 4312)

Other Chemistry
___ 4461 Instrumental Analysis (Prereq: CHEM 2335, 2343
  and Senior Standing in Chemistry)
___ 4346 Advanced Synthetic Methods
  (Prereq: CHEM 2144, 2322, 3317/4318)

Other Required Courses

English
___ 1301 Critical Thinking, Reading, and Writing I
___ 1302 Critical Thinking, Reading, and Writing II

Language, Philosophy, and Culture
___ 3 hours of an approved course (see Catalog)

Social and Behavioral Sciences
___ 3 hours of an approved course (see Catalog)

Creative Arts
___ 3 hours of an approved course (see Catalog)

Political Science
___ 2311 Government of the United States
___ 2312 State and Local Government

History
___ 1311 History of the United States (→1865)
___ 1312 History of the United States (1865→)

Foundational Component Area
___ 3 hours of an approved course (see Catalog)

Mathematics
___ 1426 Calculus I
___ 2425 Calculus II
___ 2326 Calculus III

Physics
___ 1443 General Technical Physics I (Prereq: MATH 1426)
___ 1444 General Technical Physics II
  (Pre/Coreq: MATH 2425)

Biology
___ BIOL 1441 Cell and Molecular Biology
___ BIOL 3315 Genetics
___ BIOL 3444 General Microbiology

Freshman Requirement
___ UNIV 1131 Freshman Interest Group

Electives
___ Sufficient to reach 120 total credit hours
___ Sufficient to reach 36 advanced hours

Students typically need 9 hours of any level electives for this degree plan

Undergraduate Advisor
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**Math, Physics, and Chemistry Pre- and Corequisites Flow Chart** (grade of “C” or better is required to meet prerequisites)

### Suggested Course Sequence

#### First Year:
- **Fall – 16 credit hours**
  - CHEM 1341/1181
  - MATH 1426
  - ENGL 1301
  - BIOL 1441
  - UNIV 1131
- **Spring – 14 credit hours**
  - CHEM 1342/1182
  - MATH 2425
  - ENGL 1302
  - Creative Arts

#### Second Year:
- **Fall – 16 credit hours**
  - MATH 2326
  - PHYS 1443
  - CHEM 2321, 2343, and 2335
- **Spring – 14 credit hours**
  - BIOL 3315
  - PHYS 1444
  - Language, Philosophy, and Culture
  - CHEM 2322 and 2144

#### Third Year:
- **Fall – 17 credit hours**
  - CHEM 3321 and 3181
  - CHEM 4311
  - BIOL 3444
  - POLS 2311
  - Social and Behavioral Sciences
- **Spring – 15 credit hours**
  - CHEM 3322 and 3182
  - CHEM 4312
  - CHEM 4242
  - POLS 2312
  - Foundational Component Area

#### Fourth Year:
- **Fall – 14 credit hours**
  - CHEM 4313 or 4316
  - CHEM 3317 or 4318
  - CHEM 4461
  - HIST 1311
  - Elective
- **Spring – 15 credit hours**
  - CHEM 4346
  - CHEM 4314
  - HIST 1312
  - Elective
  - Elective

*Minimum GPA Required: 2.25 in CHEM, 2.25 in COS, and 2.25 Overall.*

**NOTE:** For a thorough explanation of degree requirements please consult the Undergraduate Catalog.