BS in Biological Chemistry

2017 – 2018 Catalog
Total Credit Hours Required: 120
Advanced Credit Hours Required: 36 (3000 level or above)

### Required Chemistry Courses

**General Chemistry**
- 1441 General Chemistry I and Lab
- 1442 General Chemistry II and Lab
  (Prerequisite: CHEM 1441)

**Organic Chemistry**
- 2321 Organic Chemistry I (Prerequisite: CHEM 1442)
- 2181 Organic Chemistry I Lab (Corequisite: CHEM 2321)
- 2322 Organic Chemistry II (Prerequisite: CHEM 2321)
- 2182 Organic Chemistry II Lab (Corequisite: CHEM 2322)

**Quantitative Chemistry**
- 2335 Quantitative Chemistry (Prerequisite: CHEM 1442)
- 2285 Quantitative Chemistry Lab (Corequisite: CHEM 2335)

**Physical Chemistry**
- 3315 Biophysical Chemistry I (Prerequisite: CHEM 2335, 8 hours physics, MATH 2425)
- 3175 Biophysical Chemistry I Lab (Corequisite: CHEM 3315)

**Inorganic Chemistry**
- 3317 Inorganic Chemistry I (Pre/Corequisite: CHEM 2322)
- 4318 Inorganic Chemistry II (Prerequisite: CHEM 2322)

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

**Other Chemistry**
- 4461 Instrumental Analysis
  (Prerequisite: CHEM 2335, 2285)

### 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)

**Computer Competency**
- “C” or above in CHEM 2335 or CSE 1301
- or passing score on Computer Skills Placement Test

**Mathematics**
- 1421 Precalculus
- 1426 Calculus I
- 2425 Calculus II

**Physics**
- 1441 General College Physics I
- 1442 General College Physics II

**Biology**
- BIOL 1441 Cell and Molecular Biology
- BIOL 1442 Structure and Function of Organisms
- BIOL 3444 General Microbiology
- 6 hours from: BIOL 3315 Genetics and
  - BIOL 3301 Cell Physiology or BIOL 3312 Immunobiology
  - or BIOL 3345 Human Physiology

**Electives**
- Sufficient to reach 120 total credit hours
- Sufficient to reach 36 advanced credit hours

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**Undergraduate Advisor**
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**Suggested Course Sequence**

**First Year:**
- **Fall** – 15 credit hours
  - CHEM 1441
  - MATH 1421
  - ENGL 1301
  - BIOL 1441
- **Spring** – 15 credit hours
  - CHEM 1442
  - MATH 1426
  - ENGL 1302
  - BIOL 1442

**Second Year:**
- **Fall** – 15 credit hours
  - MATH 2425
  - PHYS 1441
  - Language, Philosophy, and Culture
  - CHEM 2321 and 2181
- **Spring** – 16 credit hours
  - BIOL 3315
  - PHYS 1442
  - CHEM 2335 and 2285
  - CHEM 2322 and 2182

**Third Year:**
- **Fall** – 17 credit hours
  - CHEM 3315 and 3175
  - CHEM 4311
  - BIOL 3444
  - POLS 2311
  - Social and Behavioral Sciences
- **Spring** – 14 credit hours
  - CHEM 4242
  - CHEM 4312
  - CHEM 4314
  - POLS 2312
  - Foundational Component Area

**Fourth Year:**
- **Fall** – 16 credit hours
  - CHEM 4313 or 4316
  - CHEM 3317 or 4318**
  - HIST 1311
  - Advanced Elective (3 hrs)
  - BIOL 3301 or 3312 or 3345
- **Spring** – 13 credit hours
  - CHEM 4461
  - HIST 1312
  - Computer Competency
  - Creative Arts

*Minimum GPA Required: 2.25 in CHEM, 2.25 in COS, and 2.25 Overall.
**CHEM 4318 usually offered in Spring semesters.

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