# BS in Biochemistry

**American Chemical Society Accredited**

## 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 (Prereq: CHEM 1441)

**Organic Chemistry**

- 2321 Organic Chemistry I (Prereq: CHEM 1442)
- 2181 Organic Chemistry I Lab (Coreq: CHEM 2321)
- 2322 Organic Chemistry II (Prereq: CHEM 2321)
- 2182 Organic Chemistry II Lab (Coreq: CHEM 2322)

**Quantitative Chemistry**

- 2335 Quantitative Chemistry (Prereq: CHEM 1442)
- 2285 Quantitative Chemistry Lab (Coreq: CHEM 2335)

**Physical Chemistry**

- 3321 Physical Chemistry I (Prereq: CHEM 2335, 8 hours of 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 General Biochemistry I (Prereq: CHEM 2322)
- 4242 Lab Techniques in Biochemistry (Prereq: CHEM 4311)
- 4312 General Biochemistry II (Prereq: CHEM 4311)
- 4314 Enzymology (Prereq: CHEM 4311)  
  3 hours from:  
  4313 Metabolism and Regulation (Prerequisite: CHEM 4312)  
  4316 Biochemical Genetics (Prerequisite: CHEM 4312)

**Other Chemistry**

- 4461 Instrumental Analysis (Prereq: CHEM 2335, 2285)  
- 4346 Advanced Synthetic Methods (Prereq: CHEM 2182, 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)

**Computer Competency**

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

**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

**Electives**

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

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**Undergraduate Advisor**

Lauren Jones  
Chemistry and Physics Building Room 130  
Phone: (817) 272 - 3171  
Fax: (817) 272 - 3808

E-mail: LJones@uta.edu
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 – 15 credit hours**
  - CHEM 1441
  - MATH 1426
  - ENGL 1301
  - BIOL 1441

- **Spring – 14 credit hours**
  - CHEM 1442
  - MATH 1425
  - ENGL 1302
  - Creative Arts

Second Year:
- **Fall – 14 credit hours**
  - MATH 2326
  - PHYS 1443
  - Language, Philosophy, and Culture
  - CHEM 2321 and 2181

- **Spring – 16 credit hours**
  - BIOL 3315
  - PHYS 1444
  - CHEM 2335 and 2285
  - CHEM 2322 and 2182

Third Year:
- **Fall – 17 credit hours**
  - CHEM 3321 and 3181
  - CHEM 4311
  - BIOL 2344
  - POLS 2311
  - Social and Behavioral Sciences

- **Spring – 15 credit hours**
  - CHEM 3322 and 3182
  - CHEM 4312
  - CHEM 4242
  - POLS 2312

Fourth Year:
- **Fall – 14 credit hours**
  - CHEM 4313 or 4316
  - CHEM 3317 or 4318
  - CHEM 4461
  - HIST 1311
  - Electives

- **Spring – 18 credit hours**
  - CHEM 4346
  - CHEM 4314
  - HIST 1312
  - Computer Competency
  - Electives

*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.