# BS in Biological Chemistry

## 2015 – 2016 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)  
- 2322 Organic Chemistry II (Prerequisite: CHEM 2321)  
- 2322 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 hours

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**Undergraduate Advisor**  
Charu Gupta  
Chemistry and Physics Building Room 130  
Phone: (817) 272 - 3171  
Fax: (817) 272 - 3808

**E-mail:** cgupta@uta.edu
Suggested Course Sequence

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