

# Biological Sciences, BS

## Biochemistry Concentration

### 2026-2027 Catalog

---

## Charger Foundations

### Area I: Freshman Composition

Course Number	Credits	Course Name	Semester Usually Offered
EH 101 and 102	6	College Writing I and II	Fall, Spring, Summer
EH 103	3	Accelerated College Writing	Fall, Spring
EH 105	3	Honors English Seminar	Fall

---

### Area II: Humanities and Fine Arts

Course Number	Credits	Course Name	Semester Usually Offered
Varies	3	Fine Art	Fall, Spring, Summer
Varies	3	Literature	Fall, Spring, Summer
Varies	3	Non-Literature Humanity	Fall, Spring, Summer
Varies	3	Humanities/Fine Art/Literature	Fall, Spring, Summer

---

## Area III: Mathematics and Sciences 12-14 credits

### Mathematics 4-6 credits

Course Number	Credits	Course Name	Semester Usually Offered
MA 171 or MA 171S or MA 150 & 151	3	Calculus I or Calculus I with Foundations A and B	Fall, Spring, Summer

### Natural Sciences (Lab) 8 credits

Course Number	Credits	Course Name	Semester Usually Offered
CH 101/105 or CH 121/125	3/1	Intro to Chemistry + Lab or General Chemistry I + Lab	Fall, Spring, Summer
CH 201/205 or CH 331/335	3/1	Elementary Organic Chemistry + Lab or Organic Chemistry I + Lab	Fall, Spring Fall, Spring, Summer

---

## Area IV: History and Social and Behavioral Sciences 12 credits

Course Number	Credits	Course Name	Semester Usually Offered
Varies	3	History	Fall, Spring, Summer
Varies	3	Social & Behavioral Science	Fall, Spring
Varies	3	Social & Behavioral Science	Fall, Spring
Varies	3	History/Social and Behavioral Science	Fall, Spring, Summer

---

## Area V: Pre-Professional

### Additional Requirements 4 credits

Course Number	Credits	Course Name	Semester Usually Offered
FYE 101S or HON 101	1	Charger Success - Science or Introduction to Honors Research	Fall
Varies	3	Computer Programming	Fall, Spring
PH 101/101L or PH 111/114	4	General Physics I + Lab or General Physics with Calculus I + Lab	Fall Fall, Spring, Summer
Varies		Statistics	Fall, Spring
EH 301		Technical Writing	
Varies		Statistics	Fall, Spring

---

## Major Requirements

### Biological Sciences Core 18 credits

Course Number	Credits	Course Name	Semester Usually Offered
BYS 119/121	4	Principles of Biology + Lab	Fall, Spring, Summer
BYS 120/122	4	Organismal Biology + Lab	Fall, Spring, Summer
BYS 219/221	2	Genetics and Evolution + Lab	Fall, Spring
BYS 300/300L	3	Cell and Developmental Biology + Lab	Fall, Spring, Summer
BYS 490	2	Senior Capstone	Fall, Spring, Summer

## Biochemistry Concentration 12 credits

Course Number	Credits	Course Name	Semester Usually Offered
BYS 321/321L	4	General Microbiology I + Lab	Fall, Spring
BYS 361/362	3	General Biochemistry I + Lab	Fall, Spring
BYS 363/365	3/1	General Biochemistry II + Lab	Spring

## Biochemistry Concentration Electives 6 credits

Course Number	Credits	Course Name	Semester Usually Offered
Varies	3	300+ level or higher BYS course	Fall, Spring
Varies	3	300+ level or higher BYS course	Fall, Spring

---

## Minor Requirements

### Required Chemistry Minor 21 credits

Course Number	Credits	Course Name	Semester Usually Offered
CH 121/125	3/1	General Chemistry I + Lab	Fall, Spring, Summer
CH 123/126	3/1	General Chemistry II + Lab	Fall, Spring, Summer
CH 223/224	3/1	Quantitative Analysis + Lab	Fall, Spring
CH 331/335	3/1	Organic Chemistry I + Lab	Fall, Spring, Summer
CH 332/336	3/1	Organic Chemistry II + Lab	Fall, Spring, Summer
CH/BYS 362	1	General Biochemistry I Lab	Fall, Spring

---

## General Electives

Elective courses can be taken from any department and do not have to be taken in your major or minor. Only 4 HPE credits can apply.

## Graduation Requirements

- Minimum of 120 credits required for graduation
- At least 36 credits must be completed at the 300 level or higher
- All prerequisite courses must be completed with a grade of C- or higher
- The UAH Catalog is the final authority for all degree requirements

---

## Charger Foundations Choices

Freshman Composition	Choose 1	College Writing I & II (EH 101 + 102) Accelerated College Writing (EH 103; equivalent to EH 101 & EH 102) Honors English Seminar (EH 105; equivalent to EH 101 & EH 102)
Fine Arts	Choose 1	Ancient & Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Drawing: Foundations (ARS 160) Intro to Film Studies (FMA 1230) Intro to Music Literature (MU 100) Theatre Appreciation (TH 122)
Literature	Choose 1 or 2	Readings in Literature & Culture I (EH 207) Readings in Literature & Culture II (EH 208) Literature without Borders (EH 241) Mythology (EH 242) Protest Literature (EH 243) Heroes &/or Monsters (EH 244) Love &/or Romance (EH 245) Speculative Realities (EH 246)

Humanities (Non-Literature)	Choose 1 or 2	Ancient & Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Drawing: Foundations (ARS 160) Intro to Film Studies (FMA 123) Intro to Music Literature (MU 100) Theatre Appreciation (TH 122) Ancient & Medieval Worlds (AMS 229) Public Speaking (CM 113) Intro to Philosophy (PHL 101) Intro to Ethics (PHL 102) Intro to Logic (PHL 103) Tech, Science, & Human Values (PHL 150) Intro to Women's Studies (WGS 200) Foreign Language (WLC 101) International Cinema (WLC 204)
Mathematics	Choose 1	Calculus I with Foundations A & B (MA 150 & MA 151) or Calculus I (MA 171 or MA 171S)
Natural Sciences (Lab) Sequence	Choose 1 sequence	Intro to Chemistry + Lab (CH 101/105) and Elementary Organic Chemistry + Lab (CH 201/205) General Chemistry I + Lab (CH 121/125) and Organic Chemistry I + Lab (CH 331/335)
History	Choose 1 or 2	World History to 1500 (HY 103) World History since 1500 (HY 104) United States to 1877 (HY 221) United States since 1877 (HY 222)
Social & Behavioral Sciences	Choose 2 or 3	World Geography (AES 105) Human Geography (AES 110) Global Systems & Cultures (GS 200) Macroeconomics (ECN 142) Microeconomics (ECN 143) Intro to American Government (PSC 101) Intro to Comparative Politics (PSC 102) Intro to International Relations (PSC 260) General Psychology I (PY 101) Life-Span Development (PY 201) Intro to Sociology (SOC 100) Intro to Criminology (SOC 103) Intro Justice & Equity Studies (JES 200)

Students must take one literature and one history course.  
Students must also take either a second literature or history course to complete a sequence.

---

### Computer Programming, Physics, and Statistics Choices

Computer Programming	Choose 1	Intro to CS Using Python (CS 104) Coding Algorithms for Biology (BYS 205)
Physics	Choose 1	General Physics I + Lab (PH 101/101L) General Physics with Calculus I + Lab (PH 111/114)
Statistics	Choose 1	Elements of Statistical Analysis (MA 281) Intro Probability & Statistics (MA 385) Psychological Statistics (PY 300) Statistics for Social Sciences (SOC 303)

---