



Department of Chemistry and Forensic Science
College of Science, Technology, Engineering, and

Math (2025-26)

Suggested Curriculum Guide for BS Chemistry, Biochemistry Concentration with ACS Certification

Freshman (1st Semester) 18 hrs

GSD 101- Foundations in Learning	3
CHE 111- General Chemistry I	3
CHE 111L- General Chemistry I	1
Lab MAT 234 – Calculus I	4
Free Elective (<i>BIO 111 & BIO 111L recommended</i>)- Cell and Molecular Biology/ Lab	4
Gen. Ed. 1A (<i>ENG 101</i>)	3

Sophomore (1st Semester) 17 hrs

CHE 250 (<i>fall only</i>)- Descriptive Inorganic Chemistry	3
CHE 250L (<i>fall only</i>)- Descriptive Inorganic Chemistry	1
Lab CHE 361- Organic Chemistry I	3
CHE 361L- Organic Chemistry I Lab	1
BIO 315 <i>or</i> BIO 320- Genetics <i>or</i> Principles of Microbiology	4
⁶ PHY 131 <i>or</i> 201 (<i>fulfills Gen. Ed. 4</i>)- College Physics I <i>or</i> University Physics I	5

Junior (1st Semester) 16 hrs

CHE 385 (<i>fall only</i>)- Chemical Literature	3
CHE 425 (<i>fall only</i>)- Instrumental Analysis	3
CHE 425L (<i>fall only</i>)- Instrumental Analysis	1
Lab CHE 430- Biochemistry of Macromolecules	3
Gen. Ed. 3B (<i>Humanities</i>) Course 1	3
BIO 331- Cell Biology	3

Senior (1st Semester) 14 hrs

Gen. Ed. 1C (<i>Oral Comm.</i>)	3
CHE 402 (<i>fall only</i>)- Polymers and Particles	1
Free Elective (<i>+BIO 531 recommended</i>)- Principles of Molecular Biology	4
Gen. Ed. 3A (<i>Arts</i>)	3
Gen. Ed. 3B, Course 2	3

Freshman (2nd Semester) 15 hrs

BIO 112 (<i>fulfills Gen. Ed. 4</i>)- Ecology and Evolution	3
BIO 112L- Ecology and Evolution Lab	1
CHE 112- General Chemistry II	3
CHE 112L- General Chemistry II Lab	1
MAT 244- Calculus II	4
Gen. Ed. 1B (<i>ENG 102</i>)	3

Sophomore (2nd Semester) 14 hrs

CHE 325- Analytical Chemistry I	3
CHE 325L- Analytical Chemistry I Lab	2
CHE 362- Organic Chemistry II	3
CHE 362L- Organic Chemistry II Lab	1
PHY 132 or 202- College Physics II or University Physics II	5

Junior (2nd Semester) 14 hrs

CHE 431 (<i>spring only</i>)- Metabolic Biochemistry	3
CHE 432- Biochemistry Laboratory	1
CHE 471- Principles of Physical Chemistry I CHE	3
471L- Principles of Physical Chemistry I Lab	1
Gen. Ed. 5A (<i>History</i>)	3
Gen. Ed. 5B, Course 1	3

Senior (2nd Semester) 12 hrs

CHE 485- Chemistry Seminar	1
CHE 450 (<i>spring only</i>)- Inorganic Chemistry	3
Gen. Ed. 5B (<i>Soc. & Behav. Sci.</i>) Course 2	3
Gen. Ed. 4 (<i>Natural Sciences</i>)	3
Free Elective	2

⁶ Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

UNIVERSITY GRADUATION REQUIREMENTS

General Education
Foundations in Learning (GSD 101; waived for transfers with 30+ hrs)

39 hours
36 hours
3 hours

MAJOR REQUIREMENTS

Core Courses

CHE 111, CHE 111L, CHE 112, CHE 112L, CHE 250, CHE 250L, CHE 325, CHE 325L, CHE 361, CHE 361L, CHE 362, CHE 362L, CHE 385, CHE 430, CHE 432, CHE 471, CHE 471L, CHE 485, MAT 234

41 hours

Concentration Requirements

CHE 402, CHE 425, CHE 425L, CHE 431, CHE 450

11 hours

Supporting Course Requirements

⁶ BIO 112, BIO 112L, BIO 315 or BIO 320, BIO 331, MAT 244, ⁶ PHY 131 or PHY 201, PHY 132 or PHY 202

19 hours

Free Electives

10 hours

Total Curriculum Requirements

120 hours