



Department of Biological Sciences
College of Science, Technology, Engineering,
and Math (2025-26)

Suggested Curriculum Guide for B.S. in Biomedical Sciences, Pre-Optometry Concentration

Freshman (1st Semester) 17 hrs

GSD 101- Foundations in Learning	3
BIO 111/L- Cell and Molecular Biology/Lab	4
^G CHE 111 (<i>fulfills Gen. Ed. 4</i>)-General Chemistry I	3
CHE 111L- General Chemistry I Lab	1
^G PSY 200 (<i>fulfills Gen. Ed. 5B</i>)- Introduction to Psychology	3
Gen. Ed. 1A (<i>ENG 101</i>)	3

Sophomore (1st Semester) 17 hrs

BIO 319- Zoology	4
CHE 361- Organic Chemistry I	3
CHE 361L- Organic Chemistry I Lab	1
MAT 234- Calculus I	4
^G PHY 131 <i>or</i> PHY 201 (<i>fulfills Gen. Ed. 4</i>)- College Physics I <i>or</i> University Physics I	5

Junior (1st Semester) 16-17 hrs

BIO 331- Cell Biology	3
CHE 362- Organic Chemistry II	3
CHE 362L- Organic Chemistry II Lab	3
PHI 383- Health & Biomedical Ethics	1
^G STA 215 <i>or</i> STA 270 (<i>fulfills Gen. Ed. 2</i>)- Intro. to Statistical Reasoning <i>or</i> Applied Statistics	3-4
† Restricted Elective	3

Senior (1st Semester) 12-16 hrs

‡ BIO/CHE Elective	3-4
CHE 430 Biochemistry of Macromolecules	3
<i>or</i> 431-Metabolic Biochemistry (<i>Spring only →</i>)	
Gen. Ed. 3A (<i>Arts</i>)	3
Gen Ed. 3B course 2	3
Free Elective	0-3

Freshman (2nd Semester) 15 hrs

BIO 112/L- Ecology and Evolution/Lab	4
CHE 112- General Chemistry II	3
CHE 112L- General Chemistry II Lab	1
Gen. Ed. 1B (<i>ENG 102</i>)	3
Gen. Ed.5B course 2	3
Free Elective	1

Sophomore (2nd Semester) 13 hrs

BIO 320- Principles of Microbiology	4
BIO 332- Careers in Biomedical Sciences	1
PHY 132 <i>or</i> PHY 202- College Physics II <i>or</i> University Physics II	5
Gen Ed. 3B (<i>Humanities</i>) course 1	3

Junior (2nd Semester) 14 hrs

BIO 315- Genetics	4
BIO 348- Vertebrate Physiology	3
INF 104- Computer Literacy with Software Apps.	3
Gen. Ed. 1C (<i>CMS 100 or 210</i>)	3
Free Elective	1

Senior (2nd Semester) 13-14 hrs

BIO 495- Evolution Theory and Application	1
‡ BIO/CHE Elective	3-4
† Restricted Elective	3
Gen Ed. 5A (<i>History</i>)	3
Free Elective	3

^GDenotes 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

BIO 111, BIO 112, BIO 315, BIO 319, BIO 320, BIO 331, BIO 332, BIO 348, BIO 495

28 hours

Concentration Requirements

CHE 362, CHE 362L, *CHE 430 or *CHE 431, MAT 234, PHY 132 or PHY 202

22-24 hours

‡ PLUS 6 (SIX) HOURS selected from the following (BIO/CHE elective):

BIO 527, BIO 528, BIO 531, BIO 535, BIO 546, BIO 547, BIO 549, BIO 598, §*CHE 430, §*CHE 431, *CHE 432

Supporting Course Requirements

^G CHE 111, *CHE 111L, CHE 112, CHE 112L, *CHE 361, *CHE 361L, INF 104, PHI 383, ^G * PHY 131 or ^G * PHY 201,
^G STA 215 or ^G * STA 270

23-24 hours

† PLUS 6 (SIX) HOURS selected from the following (restricted elective):

ANT 120, ECO 230, HON 312, *PSY 308, SOC 131

Free Electives

5-8 hours

Total Curriculum Requirements

120 hours

7.30.25