

**Student
Name:**

SUID:

Semester:

B.S. DEGREE REQUIREMENTS FOR BIOCHEMISTRY

DECLARATION REQUIREMENTS

30 credits (graded A-F) at SU

C+ (*min*) in CHE275 C+ (*min*) in BIO326 or BIO327

Core Courses

- BIO 121: General Biology
- or Advanced Placement Biology Credit
- BIO 224: Integrative Biology Lab
- CHE 106/107 or 109/129: General Chemistry I/Lab
- CHE 116/117 or 119/139: General Chemistry II/Lab
- CHE 275/276: Organic Chemistry I/Lab
- CHE 325/326: Organic Chemistry II/Lab
- MAT 285 or 295: Calculus I
- MAT 286 or 296: Calculus II
- PHY 211/221: General Physics I/Lab
- PHY 212/222: General Physics II/Lab
- BIO 326: Genetics
- BIO 327: Cell Biology
- CHE474: Structural and Physical Biochemistry
- BIO/BCM 478 or CHE/BCM 477:
Biochemistry Lab or
Preparation and Analysis of Proteins and Nucleic Acids Lab
- BCM 475: Biochemistry I
- BCM 476: Biochemistry II

Elective Courses (At least 12 credits, including at least one instructional lab indicated with an asterisk)

- CHE 335: Chemical and Biochemical Analysis Lab* (4)
- CHE 346: Physical Chemistry I (3)
- CHE 347: Physical-Analytical Lab* (2)
- CHE 356: Physical Chemistry II (3)
- BIO 409: General Microbiology* (4)
- CHE 412: Metals in Medicine (3)
- BIO 414: Brain and Behavioral Plasticity (3)
- CHE 414: Introduction to Medicinal Chemistry (3)
- BIO 422: Bioinformatics for Life Sciences w/Lab* (3)
- CHE 427: Organic Chemistry of Biological Molecules (3)
BIO 447: Immunobiology (3)
- BIO 457: Principles of Human Toxicology (3)
- BCM 460: Research in Biochemistry (1-3) *credits*
- BIO 462: Molecular Genetics (3)
- BIO 463: Molecular Biotechnology Lab* (4)
- BIO 464: Applied Biotechnology Lab* (4)
- BIO 465: Molecular Biology Lab* (3)
- BIO 471: Cell and Development Biology Lab* (3)
- BIO/BCM 478: Biochemistry Lab* (3)
- BCM 484: Biomolecular Modeling w/Lab* (3)
- BIO 501: Biology of Cancer (3)
- BIO 503: Developmental Biology (3)
- CHE 546: Molecular Spectroscopy and Structure (1-3)
- CHE 575: Organic Spectroscopy (3)

Total elective credits: *12 minimum*

Instructional lab course:

If both BIO/BCM 478 and CHE/BCM 477 are taken, one may count toward the 12-credit elective requirement, thereby also meeting the instructional lab requirement.

BCM 460 counts (up to 3 credits) towards elective requirement, but does not count as an instructional lab course.

RECOMMENDED ELECTIVES

Preparation for Graduate School in a Department of Biology, Biochemistry, or Molecular Biology

BIO 409: General Microbiology
CHE 412: Metals in Medicine
CHE 427: Organic Chemistry of Biological Molecules
BIO 447: Immunobiology
BCM 460: Research in Biochemistry
BIO 462: Molecular Genetics
BIO 463: Molecular Biotechnology Lab
BIO 464: Applied Biotechnology Lab
BIO 465: Molecular Biology Lab
BCM 484: Biomolecular Modeling w/Lab
BIO 501: Biology of Cancer
BIO 503: Developmental Biology

Preparation for Graduate School in a Department of Chemistry

CHE 335: Chemical and Biochemical Analysis Lab
CHE 346: Physical Chemistry I
CHE 356: Physical Chemistry II
CHE 412: Metals in Medicine
CHE 414: Introduction to Medicinal Chemistry
CHE 427: Organic Chemistry of Biological Molecules
BCM 460: Research in Biochemistry
BIO 465: Molecular Biology Lab
BCM 484: Biomolecular Modeling w/Lab
CHE 546: Molecular Spectroscopy and Structure
CHE 575: Organic Spectroscopy

Preparation for Health Professions (M.D., D.D.S., D.V.M.)

BIO 409: General Microbiology
CHE 412: Metals in Medicine
CHE 414: Introduction to Medicinal Chemistry
BIO 447: Immunobiology
BCM 460: Research in Biochemistry
BIO 462: Molecular Genetics
BIO 465: Molecular Biology Lab
BIO 501: Biology of Cancer
BIO 503: Developmental Biology

Preparation for Technical Careers in Pharmaceutical or Biotechnology Industry

CHE 335: Chemical and Biochemical Analysis Lab
CHE 412: Metals in Medicine
BIO 409: General Microbiology
CHE 427: Organic Chemistry of Biological Molecules
BIO 447: Immunobiology
BCM 460: Research in Biochemistry
BIO 462: Molecular Genetics
BIO 463: Molecular Biotechnology Lab
BIO 464: Applied Biotechnology Lab
BIO 465: Molecular Biology Lab
BCM 484: Biomolecular Modeling w/Lab
BIO 501: Biology of Cancer
BIO 503: Developmental Biology
CHE 575: Organic Spectroscopy

last updated: October 2021