

**B.S. Biochemistry Major using Fall 2025 catalog or newer:****Required Courses**

|       | <b>Cred.</b> | <b>Offered</b> | <b>Course</b>                                  | <b>Possible Substitutions</b> |
|-------|--------------|----------------|------------------------------------------------|-------------------------------|
| _____ | 4            | F,W,S          | CHM 125/126 Principles of Chemistry I          |                               |
| _____ | 5            | F,W,S          | CHM 127/128 Principles of Chemistry II         |                               |
| _____ | 4            | F,W,S          | CHM 221 Survey of Analytical Chemistry         |                               |
| _____ | 4            | F              | CHM 245 Principles of Organic Chemistry I      | } CHM 241*                    |
| _____ | 1            | F              | CHM 246 Principles of Organic Chemistry I Lab  |                               |
| _____ | 3            | W              | CHM 247 Principles of Organic Chemistry II     | } CHM 242*                    |
| _____ | 1            | W              | CHM 248 Principles of Organic Chemistry II Lab |                               |
| _____ | 3            | F              | CHM 351 Introduction to Physical Chemistry     | CHM 356 and 358               |
| _____ | 1            | F,W            | CHM 352 Physical Chemistry Laboratory          |                               |
| _____ | 4            | F,W,S          | CHM 461 Biochemistry I                         |                               |
| _____ | 3            | F,W            | CHM 462 Techniques in Biochemistry             |                               |
| _____ | 3            | W              | CHM 463 Biochemistry II                        |                               |
| _____ | 1            | F,W            | CHM 391 Chemistry Seminar I                    |                               |
| _____ | 1            | F,W            | CHM 491 Chemistry Seminar II                   |                               |

**Cognates**

|       |   |       |                             |                 |
|-------|---|-------|-----------------------------|-----------------|
| _____ | 4 | F,W,S | BIO 120 General Biology     | CMB 155 and 156 |
| _____ | 3 | F,W,S | BIO 375 Genetics            | BIO 355*        |
| _____ | 1 | F,W,S | BIO 376 Genetics Laboratory |                 |
| _____ | 4 | F,W,S | MTH 201 Calculus I          |                 |
| _____ | 5 | F,W,S | PHY 220 General Physics I   | PHY 230         |
| _____ | 5 | F,W,S | PHY 221 General Physics II  | PHY 231         |

\*Students who transfer or change majors may use the starred substitutions (with advisor approval)

Students in the Biochemistry major interested in graduate school are advised to consult with their advisor about selecting these optional courses: PHY 230/231 instead of PHY 220/221, CHM 356/358 instead of CHM 351, MTH 202 in addition to MTH 201.

**Choose 8 credits from the following list**

|         |         |                                 |         |         |                                     |
|---------|---------|---------------------------------|---------|---------|-------------------------------------|
| _____ 4 | BIO 357 | Environmental Microbiology      | _____ 3 | BMS 431 | Medical Virology                    |
| _____ 2 | BIO 416 | Advanced Genetics Laboratory    | _____ 3 | CHM 421 | Green Chem. for Sustainable Env.    |
| _____ 3 | BIO 423 | Plant Biotechnology             | _____ 3 | CHM 427 | Green and Environ. Chemistry Lab.   |
| _____ 3 | BMS 212 | Introductory Microbiology       | _____ 4 | CHM 448 | Advanced Organic Lecture/lab        |
| _____ 1 | BMS 213 | Laboratory in Microbiology      | _____ 3 | CHM 457 | Adv. Physical and Instr. Chem. Lab. |
| _____ 3 | BMS 290 | Human Physiology                | _____ 3 | CHM 475 | Electrochemistry                    |
| _____ 1 | BMS 391 | Laboratory in Human Physiology  | _____ 4 | CHM 478 | Advanced Inorganic Lecture/lab      |
| _____ 3 | BMS 306 | Advanced Human Nutrition        | _____ 4 | CMB 405 | Cell and Molecular Biology          |
| _____ 3 | BMS 312 | Bacterial Genetics              | _____ 2 | CMB 406 | Cell and Molecular Biology Lab.     |
| _____ 1 | BMS 313 | Bacterial Genetics Laboratory   | _____ 3 | CMB 411 | Genetics of Develop. and Cancer     |
| _____ 3 | BMS 410 | Immunology                      | _____ 3 | CMB 414 | Molecular Biology of the Gene       |
| _____ 3 | BMS 422 | Bacterial Physiology            | _____ 4 | CMB 426 | Research Appl. in Nucleic Acids     |
| _____ 2 | BMS 423 | Bacterial Physiology Laboratory | _____ 3 | CMB 451 | Bioinformatics: Tools and Tech.     |
|         |         |                                 | _____ 3 | CMB 452 | Computer Mod. Of Biomolecules       |