**Bachelor of Science in Biochemistry**

PLEASE NOTE: This is a SAMPLE course plan only. Please meet with your advisor to ensure completion of all requirements

|  |  |  |
| --- | --- | --- |
| **Freshman** |  | **Sophomore** |
| *Fall* | *Spring* | *Units* | *Fall* | *Spring* | *Units* |
| **CHEM 107 or CHEM 115aL****(GE-E)****4 units** | **CHEM 108 or CHEM 115bL****4 units** | **4** | **CHEM 325aL****4 units** | **CHEM 325bL****4 units** | **4** |
| **BISC 120L or BISC 121L****(GE-D)****4 units** | **BISC 220L or BISC 221L****4 units** | **4** | **BISC 320L (fa)****4 units** | **BISC 330L****4 units** | **4** |
| **WRIT-150****4 units** | **GSEM 110, 120, or 130****4 units** | **4** | **MATH 125****(GE-F)****4 units** | **MATH 126****4 units** | **4** |
| **Foreign Language I****4 units** | **Foreign Language II****4 units** | **4** | **Foreign Language III****4 units** | **GE-A, B, C, G, or H****4 units** | **4** |
| CHEM 294 (Optional) | CHEM 294 (Optional) | 1-2 | Elective (Optional) | Elective (Optional) | 1-2 |
|  |  |
| **Junior** | **Senior** |
| *Fall* | *Spring* | *Units* | *Fall* | *Spring* | *Units* |
| **PHYS 135aL or PHYS 151L****4 units** | **PHYS 135bL or PHYS 152L****4 units** | **4** | **BISC 403 (fa)****4 units** | **BISC 435 (sp)****4 units** | **4** |
| **CHEM 300L****4 units** | **Upper Division BIOC Elective\*\*****4 units** | **4** | **Upper Division BIOC Elective****4 units** | **CHEM 432 (sp)\*****4 units** | **4** |
| **GE-A, B, C, G, or H****4 units** | **MATH 208 or MATH 226 or BISC 305****4 units**  | **4** | **GE-A, B, C, G, or H****4 units** | **GE-A, B, C, G, or H****4 units** | **4** |
| **GE-A, B, C, G, or H****4 units** | **GE-A, B, C, G, or H****4 units** | **4** | **GE-A, B, C, G, or H****4 units** | **WRIT 340****4 units** | **4** |
| Elective (Optional) | Elective (Optional) | 1-2 | Elective (Optional) | Elective (Optional) | 1-2 |

-A regular full-load is 16 units; 2 unit electives in addition to these 16 units are optional.
-The GESM and GE requirements can be fulfilled in 5 courses if courses that double count are selected.

\*CHEM 430 (4 units, Fa) is an alternative to CHEM 432.

\*\*Upper Division Biochemistry Elective: 8 units from BISC 300-499 or CHEM 300-499. See advisor for additional options.

**B.S. degree in Biochemistry: Key Courses**

|  |  |
| --- | --- |
| Required Core courses, Lower division | Units |
| CHEM 107L /108L | General Chemistry for Chemistry Majors, or  | 4-4 |
| CHEM 115abL  | Advanced General Chemistry  | 4-4 |
| BISC 120L  | General Biology: Organismal Biology and Evolution, or  | 4 |
| BISC 121L  | Advanced General Biology: Organismal Biology and Evolution  | 4 |
| BISC 220L  | General Biology: Cell Biology and Physiology, or  | 4 |
| BISC 221L  | Advanced General Biology: Cell Biology and Physiology  | 4 |
| MATH 125  | Calculus I  | 4 |
| MATH 126  | Calculus II  | 4 |
| MATH 208x | Elementary Probability and Statistics, or | 4 |
| MATH 226  | Calculus III, or  | 4 |
| BISC 305 | Introduction to Statistics for Biologists | 4 |
| PHYS 135abL | Physics for the Life Sciences, or | 4-4 |
| PHYS 151L | Fundamentals of Physics I: Mechanics and Thermodynamics and | 4 |
| PHYS 152L | Fundamentals of Physics II: Electricity and Magnetism  | 4 |
|    |    |   |
| Required Core courses, Upper division | Units |
| CHEM 300L  | Analytical Chemistry  | 4 |
| CHEM 325abL  | Organic Chemistry  | 4-4 |
| CHEM 430 | Physical Chemistry, or | 4  |
| CHEM 432 | Physical Chemistry for the Life Sciences | 4 |
| BISC 320L  | Molecular Biology | 4 |
| BISC 330L  | Biochemistry  | 4 |
| BISC 403  | Advanced Molecular Biology  | 4 |
| BISC 435 | Advanced Biochemistry | 4 |
|    |    |   |
| Advanced Elective, Eight Units from Among: | Units |
| Any upper division, non-core course work available for major credit in biological sciences or chemistry 300-499. | 4-4 |