**Bachelor of Science in Chemistry**

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** |
| **MATH 125**  **(GE-F)**  **4 units** | **MATH 126**  **4 units** | **4** | **MATH 225 or MATH 226**  **4 units** | **PHYS 151L**  **4 units** | **4** |
| **WRIT-150**  **4 units** | **GSEM 110, 120, 130, or 140**  **4 units** | **4** | **GE-A, B, C, D, G, or H**  **4 units** | **GE-A, B, C, D, G, or H**  **4 units** | **4** |
| **Foreign Language I**  **4 units** | **Foreign Language II**  **4 units** | **4** | **Foreign Language III**  **4 units** | **GE-A, B, C, D, 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* |
| **CHEM 426 (fa)**  **4 units** | **Advanced CHEM Lab (sp)\***  **4 units** | **4** | **CHEM 430 (fa)**  **4 units** | **CHEM 431 (sp)**  **4 units** | **4** |
| **CHEM 300L**  **4 units** | **CHEM 453 (sp)**  **4 units** | **4** | **CHEM 490**  **4 units** | **CHEM 332L (sp)**  **4 units** | **4** |
| **PHYS 152L**  **4 units** | **PHYS 153L**  **4 units** | **4** | **GE-A, B, C, D, G, or H**  **4 units** | **GE-A, B, C, D, G, or H**  **4 units** | **4** |
| **GE-A, B, C, D, G, or H**  **4 units** | **WRIT 340**  **4 units** | **4** | **GE-A, B, C, D, G, or H**  **4 units** | **GE-A, B, C, D, G, or H**  **4 units** | **4** |
| Elective (Optional) | Elective (Optional) | 1-2 | Elective (Optional) | Elective (Optional) | 1-2 |

\* Advanced CHEM Lab options (A total of 4 Units): Chem 423L (4 units, sp) **or** Chem 462L (4 units, sp) **or** CHEM 463L (2 units, sp) with CHEM 467L (2 units, fa)

-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 6 courses if courses that double count are selected.

**B.S. degree in Chemistry: 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 |
| MATH 125 | Calculus I | 4 |
| MATH 126 | Calculus II | 4 |
| MATH 225 | Linear Algebra and Linear Differential Equations, or | 4 |
| MATH 226 | Calculus III | 4 |
| PHYS 151L | Fundamentals of Physics I: Mechanics and Thermodynamics | 4 |
| PHYS 152L | Fundamentals of Physics II: Electricity and Magnetism | 4 |
| PHYS 153L | Fundamentals of Physics III: Optics and Modern Physics | 4 |
|  |  |  |
| Required Core courses, Upper division | | Units |
| CHEM 300L | Analytical Chemistry | 4 |
| CHEM 325abL | Organic Chemistry | 4-4 |
| CHEM 332L  CHEM 350 | Physical Chemistry Measurements  Molecular Principles of Biochemistry (GE-D) | 4  4 |
| CHEM 426  CHEM 455  CHEM 461 | Advanced Organic Chemistry  Or  Chemical Nanotechnology  Or  Polymer Chemistry | 4  4  4 |
| CHEM 430 | Physical Chemistry: Thermodynamics and Kinetics | 4 |
| CHEM 431 | Physical Chemistry: Quantum Mechanics | 4 |
| CHEM 490x  CHEM 453 | Directed Research  Advanced Inorganic Chemistry | 4  4 |
| Advanced Lab Elective, Choose 4 Units from: Units | | |
| CHEM 423L | Advanced Laboratory Techniques in Organic and Inorganic Chemistry Or | 4 |
| CHEM 463L | Chemical Nanotechnology Laboratory and | 2 |
| CHEM 467L  CHEM 462L  CHEM 465L | Advanced Chemical Biology Laboratory  Or  Properties and Sustainability of Polymers  Or  Chemical Instrumentation | 2  4  4 |
|  |  |  |
|  |  |  |
|  |  |  |