**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**

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| --- | --- |
| 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 MeasurementsMolecular Principles of Biochemistry (GE-D) | 44 |
| CHEM 426 CHEM 455CHEM 461 | Advanced Organic Chemistry OrChemical NanotechnologyOrPolymer Chemistry  | 444 |
| CHEM 430 | Physical Chemistry: Thermodynamics and Kinetics | 4 |
| CHEM 431 | Physical Chemistry: Quantum Mechanics | 4 |
| CHEM 490xCHEM 453 | Directed ResearchAdvanced Inorganic Chemistry  | 44 |
| 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 467LCHEM 462LCHEM 465L | Advanced Chemical Biology LaboratoryOrProperties and Sustainability of Polymers OrChemical Instrumentation  | 244 |
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