|  |  |  |
| --- | --- | --- |
| **Biochemistry Bachelor of Science Checklist** | **Done** | **Need** |
| **Suggested First Year Courses:** |
| CHEM 111/117 GENERAL I |  |  |
| MATH 118/119 or 121 CALCULUS I |  |  |
| CHEM 112/118 GENERAL II |  |  |
| MATH 122 CALCULUS II |  |  |
| BIOL 190 PRINCIPLES OF BIOLOGY |  |  |
| **Suggested Second Year Courses:** |
| CHEM 221 ORGANIC I |  |  |
| CHEM 222 ORGANIC II |  |  |
| BIOL 210 CELL BIOLOGY |  |  |
| CHEM 255: QUANTITATIVE CHEM ANALYSIS (1/2 unit) |  |  |
| ***Required before taking Physical Chemistry (CHEM 331):*** |  |  |
| **One year of Calculus (MATH 118/119 or 121 and 122), as shown above AND:** |  |  |
| **One year of Physics:** |  |  |
| Either PHYS 201 GENERAL I |  |  |
| **AND** |
| PHYS 202 GENERAL II (sequence starts in spring and is calculus based) |  |  |
| **OR** |
| PHYS 103 FUNDAMENTALS OF PHYSICS I |  |  |
| **AND** |
| PHYS 104 FUNDAMENTALS OF PHYSICS II (sequence starts in fall and is algebra based) |  |  |
| **Additional Required Courses:** |
| CHEM 331 PHYSICAL CHEMISTRY I |  |  |
| CHEM 341 BIOCHEMISTRY I |  |  |
| CHEM 342 BIOCHEMISTRY II |  |  |
| BIOL 315 GENETICS |  |  |
| Either BIOL 380 ADVANCED GENETICS or BIOL 400 MOLECULAR BIOLOGY |  |  |
| One of these two options:a) One unit of research in BIOL or CHEM culminating in a formal paper and oral defenseb) One additional unit of CHEM chosen from courses numbered 250 or higher |  |  |
| **CHEMISTRY ELECTIVE COURSES:** |
| CHEM 260 DESCRIPTIVE INORGANIC CHEMISTRY |  |  |
| CHEM 270 ENVIRONMENTAL CHEMISTRY |  |  |
| CHEM 299 SPECIAL TOPICS |  |  |
| CHEM 332 PHYSICAL CHEMISTRY II |  |  |
| CHEM 340 PHARMACEUTICAL CHEMISTRY |  |  |
| CHEM 350 INSTRUMENTAL ANALYSIS |  |  |
| CHEM 405 INDEPENDENT STUDY AND RESEARCH (1/2 unit) |  |  |
| CHEM 406 INDEPENDENT STUDY (1 unit) |  |  |
| CHEM 407 INDEPENDENT STUDY (1/2 unit) |  |  |
| CHEM 420 ADVANCED ORGANIC CHEMISTRY |  |  |
| CHEM 460 ADVANCED INORGANIC CHEMISTRY |  |  |
| CHEM 495 HONORS PROJECT (1/2 unit) |  |  |
| CHEM 496 HONORS PROJECT |  |  |
| CHEM 497 HONORS PROJECT (1/2 unit) |  |  |
| CHEM 499 SPECIAL TOPICS |  |  |
| All biochemistry majors are strongly encouraged to do research, either during the academic year or during the summer. Stipends may be available to support summer research. |
| BIOL 380 and BIOL 400, as well as CHEM 260, 270, 420, and 460 are offered on an alternating year schedule. Students should work with their advisors in scheduling these courses as well as physics. |
| Students planning graduate work may wish to strengthen their program of study by including a second semester of physical chemistry (CHEM 332), a semester of analytical chemistry (CHEM 350), and additional courses in cell or molecular biology.  |