

B.S. Chemistry / B.S. Chemical and Biomolecular Engineering Requirements (2014-2015)

| <i>Fall</i> | | | <i>Spring</i> | | |
|---------------|---|---|---------------|---|---|
| <u>Year 1</u> | | | | | |
| CHEM-UA 125 | General Chemistry I with Lab | 5 | CHEM-UA 126 | General Chemistry II with Lab | 5 |
| MATH-UA 121 | Calculus I | 4 | MATH-UA 122 | Calculus II | 4 |
| FRSEM-UA xxx | Freshman Seminar | 4 | MATH-UA 140 | Linear Algebra | 4 |
| EXPOS-UA 1 | Writing the Essay | 4 | CORE-UA 4xx | Text & Ideas | 4 |
| 17 | | | 18 | | |
| <u>Year 2</u> | | | | | |
| CHEM-UA 225 | Organic Chemistry I with Lab | 5 | CHEM-UA 226 | Organic Chemistry II with Lab | 5 |
| MATH-UA 123 | Calculus III | 4 | MATH-UA 262 | Ordinary Differential Equations | 4 |
| PHYS-UA 91 | Physics for Majors I | 3 | PHYS-UA 93 | Physics for Majors II | 3 |
| PHYS-UA 71 | Introduction to Experimental Physics I | 2 | PHYS-UA 72 | Introduction to Experimental Physics II | 2 |
| EG-UY 1003 | Introduction to Engineering and Design | 3 | CORE-UA 5xx | Cultures and Contexts | 4 |
| 17 | | | 18 | | |
| <u>Year 3</u> | | | | | |
| CHEM-UA 651 | Quantum Mechanics and Spectroscopy | 4 | CHEM-UA 652 | Thermodynamics and Kinetics | 4 |
| CBE-UY 2124 | Analysis of Chemical and Biomolecular Process | 4 | CHEM-UA 661 | Physical Chemistry Laboratory | 4 |
| BIOL-UA 11 | Principles of Biology I | 4 | BIOL-UA 12 | Principles of Biology II | 4 |
| PHYS-UA 95 | Physics for Majors III | 3 | BIOL-UA 123 | Principles of Biology Lab | 1 |
| PHYS-UA 73 | Intermediate Experimental Physics I | 2 | CORE-UA 7xx | Expressive Culture | 4 |
| 17 | | | 17 | | |
| <u>Year 4</u> | | | | | |
| CSCI-UA 101 | Introduction to Computer Science | 4 | CBE-UY 3233 | CBE Separations | 3 |
| CBE-UY 3313 | Transport I | 3 | CBE-UY 3223 | Kinetics and Reactor Design | 3 |
| CBE-UY 3153 | CBE Thermodynamics | 3 | CBE-UY 3323 | Transport II | 3 |
| CM-UY 3314 | Biochemistry I | 4 | HU/SS | Elective | 4 |
| CORE-UA xxx | Societies & Social Sciences | 4 | HU/SS | Elective | 4 |
| 18 | | | 17 | | |
| <u>Year 5</u> | | | | | |
| CBE-UY 4113 | Engineering Laboratory I | 3 | CBE-UY 4213 | Engineering Laboratory II | 3 |
| CBE-UY 4143 | Process Dynamics & Control | 3 | CBE-UY 4263 | CBE Process Design II | 3 |
| CBE-UY 4163 | CBE Process Design I | 3 | CBE-UY 4173 | Polymeric Materials | 3 |
| XXX xxxx | Engineering Elective | 3 | XXX xxxx | Engineering Elective | 3 |
| XXX xxxx | Engineering Elective | 3 | | | |
| 15 | | | 12 | | |

Total: 165⁴

⁴ SoE Engineering Electives are (traditionally) 3 credits