**Sample Program --- B.S. in Chemistry**

**Concentration in Chemistry Education with Secondary Teaching Certification**\*Items in parentheses are recommended choices or alternatives

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **FRESHMAN** | Units |  | Units |  | Units |
| **Fall** |  | **Winter** |  | **Spring** |  |
| Chemistry 1A, M2LA  (H2A, H2LA) | 7 | Chemistry 1B, M2LB  (H2B, H2LB) | 7 | Chemistry M3C, M3LC  (H2C, H2LC) | 7 |
| Mathematics 2A | 4 | Mathematics 2B | 4 | Mathematics 2D | 4 |
| Phy. Sci 5: Intro to Sci/Math Teaching | 3 | Gen. Ed. | 4 | Gen. Ed. | 4 |
|  | ***14*** |  | ***15*** |  | ***15*** |
| **SOPHOMORE** |  |  |  |  |  |
| **Fall** |  | **Winter** |  | **Spring** |  |
| Chemistry 51A, M52LA  (H52C, H52LA) | 7 | Chemistry 51B, M52LB  (H52B, H52LB) | 7 | Chemistry 51C, M52LC  (H52C, H52LC) | 7 |
| P.S. 105: Middle School Sci/Math Teaching | 3 | Physics 7C, 7LC | 5 | Physics 7D, 7LD | 5 |
| Chemistry 5 | 4 | Chem 193: Research Methods | 4 | History 60/LPS 60: Making of Modern Science (IV)\*\* | 4 |
|  | ***14*** |  | ***16*** |  | ***16*** |
| **JUNIOR** |  |  |  |  |  |
| **Fall** |  | **Winter** |  | **Spring** |  |
| Chemistry 132A | 4 | Chemistry 132B | 4 | Chemistry 132C | 4 |
| Chem 107 | 4 | Chemistry 107L | 3 | Gen. Ed. | 4 |
| Educ 55: Know & Learn Sci/Math (III) | 5 | Educ 143AW: Classroom Interactions I | 4 | Educ 148: Complex Pedagogical Design | 6 |
| Physics 7E | 4 | Chemistry Elective | 4 |  |  |
|  | ***17*** |  | ***15*** |  | ***14*** |
| **SENIOR** |  |  |  |  |  |
| **Fall** |  | **Winter** |  | **Spring** |  |
| Chemistry Elective | 4 | Gen. Ed. | 4 | Gen. Ed. | 4 |
| Educ 143BW: Classroom Interactions II (I-UDW/VII) | 4 | Educ 109: Read & Writing in Sec. Classroom | 4 | Education 158: Student Teaching in Math & Science | 6 |
| Chemistry Elective | 4 | Educ 158: Student Teaching in Math & Science | 6 | Gen. Ed. | 4 |
| Gen. Ed. | 4 |  |  |  |  |
|  | **16** |  | **14** |  | **14** |

**Basic Requirements**

Math 2A-B-D, Physics 7C-D-E and 7LC-LD, Chemistry 1A-B, M3C and M2LA-LB, and M3LC (or H2A-B-C and H2LA-LB-LC), Chemistry 5, Chemistry 51A-B-C and M52LA-LB-LC (or H52A-B-C and H52 LA-LB-LC), Chemistry 107 and 107L, Chemistry 131A-B-C.

\*\* Also offered during Winter quarter

**Cal Teach Courses**

* **PS 5/BS 14** Intro to Science & Math Teaching (F,W,S)- Fieldwork
* **PS 105/BS 101** Middle School Teaching (F,W,S)- Fieldwork
* **Chem 193/Physics 193/BS 108** Research Methods (W)
* **LPS 60/Hist 60** Making of Modern Science (science majors only W, S, Summer)
* **Math 8** (math majors only, S, summer)
* **ED 55** Knowing and Learning (F)
* **ED 143AW** Classroom Interactions I (W, ED 55 prereq)-Fieldwork
* **ED 148** Complex Pedagogical Design (S, ED 143AW prereq)-Fieldwork
* **ED 143BW** Classroom Interactions II (F, ED 148 prereq)- Fieldwork
* **ED 109** Reading & Writing in Sec. Classroom (W, ED 148 prereq)
* **ED 158** Student Teaching I (W, ED 109 coreq, ED 143BW prereq)- Fieldwork
* **ED 158** Student Teaching II (S, ED 158 I prereq)- Fieldwork