

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

### Concentration in Chemistry Education with Secondary Teaching Certification

\*Items in parentheses are recommended choices or alternatives

<b>FRESHMAN</b>		Units		Units		Units	
<b>Fall</b>			<b>Winter</b>			<b>Spring</b>	
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
	<b>14</b>			<b>15</b>			<b>15</b>
<b>SOPHOMORE</b>							
<b>Fall</b>			<b>Winter</b>			<b>Spring</b>	
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
(Physics 2)	4					Gen. Ed	4
	<b>18</b>			<b>16</b>			<b>20</b>
<b>JUNIOR</b>							
<b>Fall</b>			<b>Winter</b>			<b>Spring</b>	
Chemistry 131A	4		Chemistry 131B	4		Chemistry 131C	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			
	<b>17</b>			<b>15</b>			<b>14</b>
<b>SENIOR</b>							
<b>Fall</b>			<b>Winter</b>			<b>Spring</b>	
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						
	<b>16</b>			<b>14</b>			<b>10</b>

**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)- 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