



## Chemistry B.A. Major with STEM Teaching Program Minor (Chemistry 5-12<sup>th</sup>)

This major partially satisfies the criteria for a teaching endorsement in Chemistry (5-12), qualifying students to teach Chemistry at the high school, middle, or junior high levels. Students who successfully complete the Chemistry BA and STEM Teaching Program Minor (an alternative to the Professional Education Program) are eligible to apply for Washington State teacher certification. Teacher certification candidates must receive a C grade or higher in all major and STEM Teaching Program courses, have a GPA of at least 3.0 for either the last 45 graded quarter credits or overall CWU/transfer cumulative, and meet all Washington State teacher certification requirements. See the chemistry and STEM Teaching advisors as soon as possible to develop a course of study.

### Pre-Requisites

MATH 153 completed  Major/Minor applications completed  Entry to major survey completed

Required Courses	Credits	Plan	Completed
<b>Chemistry B.A. (Major)</b>			
CHEM 181 + LAB, 182 + LAB, 183 + LAB General Chemistry I, II, III	15		
CHEM 332 + LAB Quantitative Analysis	5		
CHEM 350 Inorganic Chemistry I	3		
CHEM 361 + LAB, 362 Organic Chemistry I, II	8		
CHEM 381 Physical Chemistry (Thermodynamics)	5		
CHEM 431 + LAB Biochemistry I	5		
CHEM 488 Colloquium	1		
CHEM 492 Lab Experience in Teaching Chemistry	2		
CHEM Electives: 345 (5); 363+L (3+2); *382+L (3+2); 383+L (4+1); 432 (3); 433+L (3+2); 452+L (3+2); *473 (3); 295/395/495 (1-6 max)	5-6		
PHYS 111/112/113 OR 121/122/123 OR 181/182/183 with LABS Intro/Gen Physics	15		
MATH 172, 173, 272 Calculus I, II, Multivariable Calculus I	15		
*Recommended courses best meet teaching standards <b>Chemistry major subset:</b>	<b>79-80</b>		
<b>STEM Teaching Program (Minor)</b>			
<i>Pre-admission courses (must complete before full admission)</i>			
STP 301 Inquiry Approaches to Teaching	OR STP 302A Inquiry Based Teaching & Lesson Design (4)	2	
STP 302 Inquiry Based Lesson Design		2	
<i>Fully Admitted Courses (must be fully admitted to Teacher Certification)</i>			
STP 303 Knowing and Learning (pre-req to all following classes)	4		
STP 304 Classroom Interactions 1	4		
STP 305 Classroom Interactions 2	4		
STP 306 Project-Based Instruction	3		
STP 307 Functions and Modeling	3		
STP 308 Historical Perspectives in STEM Education	3		
STP 309 Research Methods	3		
EFC 480 – Student Teaching (Must meet all Student Teaching Requirements)	16		
	<b>Minor subset:</b>	<b>44</b>	
	<b>Total Credits:</b>	123-124	



**EXAMPLE 4-Year Plan** – Meet with your major and STP advisor(s) to individualize your plan before registering for classes.

	Fall	Winter	Spring
Freshman Year	Math 172 5 Chem 181 + L 5 Gen Ed 5 ^Eng 101 ^Univ 101 <b>Total 15</b>	Math 173 5 Chem 182 + L 5 Gen Ed 7-8 ^Eng 102 ^CS/IT 101 <b>Total 17-18</b>	Math 272 5 Chem 183 + L 5 Gen Ed 4-5 ^CS 105/Phil 200 <b>Total 14-15</b>
Sophomore Year	Gen Ed 5 Phys 111/121/181+L 5 Chem 361 + L 5 <b>Total 15</b>	Gen Ed 4-5 Chem 362 3 Phys 112/122/182+L 5 STP 301 2 <b>Total 14-15</b>	Gen Ed 8-10 Phys 113/123/183+L 5 STP 302 2 <b>Total 15-17</b>
Junior Year	Chem 381 5 Chem 332 + L 5 STP 303 4 <b>Total 14</b>	Gen Ed 4-5 Chem 350 3 Chem 382 3 STP 304 4 <b>Total 14-15</b>	Gen Ed 4-5 Chem 492 2 Chem 473 3 STP 307 3 <b>Total 12-13</b>
Senior Year	Gen Ed 4-5 Chem 431 + L 5 STP 306 3 STP 308 3 <b>Total 15-16</b>	Gen Ed 8-10 Chem 488 1 STP 305 4 STP 309 3 <b>Total 16-18</b>	EFC 480 16 <b>Total 16</b>

^Recommended Basic/Breadth classes

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Email: \_\_\_\_\_

Signature \_\_\_\_\_ Date: \_\_\_\_\_

STEM Teaching Minor Advisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Major Advisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_