Chemistry Education, B.S.

The degree in chemistry education prepares a student to teach chemistry in secondary education. Students that complete this degree receive endorsements to teach chemistry. Completion of this program is dependent upon being accepted into the Secondary Education program through the School of Education. There is a great demand for teachers in chemistry and employment opportunities are excellent. In obtaining this degree, students will learn how to: Use modern scientific instruments and interpret results Apply principles used in chemistry to solve everyday problems Think analytically Use problem solving skills Categorize information Apply learned math skills Develop laboratory skills

Matriculation Requirements

1. Students are admitted directly to the Baccalaureate degree program in Chemistry Education upon acceptance to the Secondary Education Program.
2. Students must obtain the departmental Advisor's signature on an approved program plan prior to enrollment in their second semester of study.

Secondary Education Requirements:

1. ENGL and MATH QL courses must have a grade C or higher.
2. GPA of 3.0 or higher with no grade lower than a C in content area courses.
3. Completion of all General Education requirements and 70% of content area courses.
4. Pass LiveScan Criminal Background Check.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**120**
General Education Requirements		**38 Credits**
ENGL 1010	Introduction to Academic Writing CC	3
or ENGH 1005	Literacies and Composition Across Contexts CC	
ENGL 2010	Intermediate Academic Writing CC	3
MATH 1210	Calculus I QL	4
Complete one of the following:		3
HIST 1700	American Civilization AS (3)	
HIST 2700 & HIST 2710	US History to 1877 AS and US History since 1877 AS (6)	
HIST 1740	US Economic History AS (3)	
POLS 1000	American Heritage AS (3)	
POLS 1100	American National Government AS (3)	
Complete the following:		
PHIL 2050	Ethics and Values IH	3
HLTH 1100	Personal Health and Wellness TE	2
or EXSC 1097	Fitness for Life TE	
Distribution Courses:		
Biology		3
CHEM 1210	Principles of Chemistry I PP [1]	4
CHEM 1220	Principles of Chemistry II PP [2]	4
Humanities		3
Fine Arts		3
Social/Behavioral Science		3
Discipline Core Requirements		**77 Credits**
Chemistry Discipline Core Courses:		
CHEM 1215	Principles of Chemistry I Laboratory [3]	1
CHEM 1225	Principles of Chemistry II Laboratory [4]	1
CHEM 1250	Chemistry Cornerstone- Research and Careers	1
CHEM 2310	Organic Chemistry I	4

CHEM 2320	Organic Chemistry II	4
CHEM 2315	Organic Chemistry I Laboratory	1
CHEM 2325	Organic Chemistry II Laboratory	1
CHEM 3000	Analytical Chemistry	2
CHEM 3005	Analytical Chemistry Laboratory	2
CHEM 3060	Physical Chemistry I WE	4
CHEM 3065	Physical Chemistry I Lab	1
CHEM 3600	Biological Chemistry	3
MATH 1220	Calculus II	4
PHYS 2210	Physics for Scientists and Engineers I PP	4
PHYS 2215	Physics for Scientists and Engineers I Lab	1
PHYS 2220	Physics for Scientists and Engineers II PP	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
SCIE 4210	Science Teaching Methods I	3
SCIE 4220	Teaching Methods in Science II	3
Education Discipline Core Courses:	Must be completed with a B- or higher	
EDSC 1010	Introduction to Education	2
EDSC 3000	Educational Psychology	3
EDSC 325G	Equitable Technology Integration GI	2
EDSP 340G	Exceptional Students GI	2
EDSC 4200	Classroom Management I	2
EDSC 4250	Classroom Management II	2
EDSC 4440	Content Area Literacies	3
EDSC 445G	Multicultural and Multilingual Education	3
EDSC 455G	Secondary Curriculum Instruction and Assessment GI	3
EDSC 4850	Student Teaching Secondary	8
EDSC 4990	Teacher Assessment Project	2
Chemistry Elective Requirement		**5 Credits**
Complete a minimum of 5 credit hours from the following list:		5
CHEM 3020	Environmental Chemistry (3)	
CHEM 3025	Environmental Chemistry Laboratory (1)	
CHEM 3100	Advanced Inorganic Chemistry (4)	
CHEM 3115	Advanced Inorganic Chemistry Lab (1)	
CHEM 3605	Biological Chemistry Lab (1)	
CHEM 3800	Energy Use on Earth GI (3)	
CHEM 4000	Instrumental Analysis WE (2)	
CHEM 4005	Instrumental Analysis Laboratory (2)	
CHEM 4600	Structure Determination (3)	
CHEM 4605	Structure Determination Laboratory (1)	
CHEM 495R	Advanced Topics in Organic Chemistry (3)	
CHEM 496R	Special Topics in Chemistry (1-4)	
or advisor-approved electives		

1

To be taken with CHEM 1215 Principles of Chemistry I Laboratory

2

To be taken with CHEM 1225 Principles of Chemistry II Laboratory

3

To be taken with CHEM 1210 Principles of Chemistry I PP

4

To be taken with CHEM 1220 Principles of Chemistry II PP

Graduation Requirements

1. Completion of a minimum of 120 semester credits with a minimum of 40 upper-division credits.
2. Overall Grade of 3.0 (B) or above with no grade lower than a C or better in major required content courses and no grade lower than a B- in Licensure and Methods courses.
3. Residency hours -- minimum of 30 credit hours through course attendance at UVU, with at least 10 hours earned in the last 45 hours.
4. Completion of GE and specified departmental requirements.
5. A minimum of 52 credit hours must be in the major with a minimum of 20 credits taken at UVU. A minimum of 24 chemistry and physics credits must be upper-division.
6. Complete all chemistry courses with a minimum grade of "C-" or better.
7. Successful completion of at least one Global/Intercultural course.

Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (http://www.uvu.edu/wolverinetrack/).

First Year		
Semester 1		**Credit Hours**
MATH 1210	Calculus I QL	4
CHEM 1210	Principles of Chemistry I PP	4
CHEM 1215	Principles of Chemistry I Laboratory	1
CHEM 1250	Chemistry Cornerstone- Research and Careers	1
ENGL 1010	Introduction to Academic Writing CC	3
HLTH 1100 or EXSC 1097	Personal Health and Wellness TE or Fitness for Life TE	2
	Credit Hours	**15**
Semester 2		
MATH 1220	Calculus II	4
CHEM 1220	Principles of Chemistry II PP	4
CHEM 1225	Principles of Chemistry II Laboratory	1
ENGL 2010	Intermediate Academic Writing CC	3
Social/Behavioral Sci. Distribution		3
	Credit Hours	**15**
Second Year		
Semester 3		
CHEM 2310	Organic Chemistry I	4
CHEM 2315	Organic Chemistry I Laboratory	1
PHYS 2210	Physics for Scientists and Engineers I PP	4
PHYS 2215	Physics for Scientists and Engineers I Lab	1
Biology Distribution		3
American Institutions		3
	Credit Hours	**16**
Semester 4		
CHEM 2320	Organic Chemistry II	4
CHEM 2325	Organic Chemistry II Laboratory	1
CHEM 3000	Analytical Chemistry	2
CHEM 3005	Analytical Chemistry Laboratory	2
PHYS 2220	Physics for Scientists and Engineers II PP	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
Humanities Distribution		3
	Credit Hours	**17**
Third Year		
Semester 5		
CHEM 3060	Physical Chemistry I WE	4
CHEM 3065	Physical Chemistry I Lab	1
CHEM 3600	Biological Chemistry	3
PHIL 2050 or PHIL 205G	Ethics and Values IH or Ethics and Values IH GI	3
EDSC 1010	Introduction to Education	2

Fine Arts Distribution		3
	Credit Hours	**16**
Semester 6		
EDSC 3000	Educational Psychology	3
EDSP 340G	Exceptional Students GI	2
EDSC 455G	Secondary Curriculum Instruction and Assessment GI	3
SCIE 4210	Science Teaching Methods I	3
Chemistry Elective		3
	Credit Hours	**14**
Fourth Year		
Semester 7		
EDSC 4200	Classroom Management I	2
EDSC 4440	Content Area Literacies	3
EDSC 445G	Multicultural and Multilingual Education	3
EDSC 325G	Equitable Technology Integration GI	2
SCIE 4220	Teaching Methods in Science II	3
Chemistry Elective		2
	Credit Hours	**15**
Semester 8		
EDSC 4850	Student Teaching Secondary	8
EDSC 4250	Classroom Management II	2
EDSC 4990	Teacher Assessment Project	2
	Credit Hours	**12**
	Total Credit Hours	**120**

Program Learning Outcomes

1. Demonstrate an overall knowledge of the key concepts needed to teach Chemistry at the secondary education level.
2. Demonstrate skill and knowledge in science pedagogy.
3. Develop an understanding of the interaction between chemistry and society.
4. Demonstrate the ability to communicate effectively both verbally and in writing.