Bachelor of Science in Secondary Education: Biology-Chemistry

Program Overview

Total Program Credits: 120+

"Shaping tomorrow's teachers today" is the cornerstone of our All Grade Education program. Graduates successfully complete licensure programs to work with students in preschool through 12th grade. Classroom teaching experiences each semester ensure that our students have the best skills possible to work with young people of all ages. Our state-of-the-art curriculum aligns courses together so that you'll take less, learn more, and leave our program with licenses to teach in all school settings: For Secondary, you will be licensed to teach fifth grade through twelfth grade.

Degree Requirements

To earn this degree, students must have a GPA of 2.75 or higher in the Major as well as an overall GPA of 2.5, complete a minimum of 120 credit hours, and fulfill the course requirements of the program listed below.

*This is a sample plan; specific courses may vary from year to year. Academic advisors will work with each student to develop their individual schedule.

MAJOR	*Options
CORE	^CORE equivalent
ELECTIVE/MINOR	
EXPERIENTIAL	

✓	CORE		CREDITS
✓		Foundation	
	LA-FWS	First-Year Writing Seminar	3
	LA-FCS	First-Year Communication Seminar	3
	LA-FQR	Quantitative Reasoning	3-4
	LA-FSS	First Year Success Seminar	1
	LA-FCG	Cultural and Global Understanding	3-5
		Exploration	
	LA-EAH	Arts and Humanitites	3
	LA-ENS	Natural Sciences	3-6
	LA-ESS	Social Sciences	3-4
		Transformation	
	LA-TFR	Faith, Reason, and Ethics	3
	LA-TBI	Big Issues - 2 courses	6-7
	LA-TCE	Creative Expression	1-3

✓		Additional credits to bring total to 120+ credits	CREDITS
✓		Electives	
		Experiential Learning	

✓	Secondary and All-Grade Education		CREDITS
✓			
	EDUC 111^	Exploring Educational Systems	3
	EDUC 112	The Exceptional Learner	3
	EDUC 202	Professional Learning Communities I	0.5
	EDUC 204	Professional Learning Communities II	0.5
	EDUC 207	Integrating Technology into Classroom	3
	EDUC 223	Child & Adolescent Development	3
	EDUC 230^	Educational Psychology	3
	EDUC 246	Educational Assessment	3
	EDUC 302	Professional Learning Communities III	0.5
	EDUC 304	Professional Learning Communities IV	0.5
	EDUC 343	Disciplinary Literacy	3
	EDUC 402	Professional Learning Communities V	0.5
	EDUC 430	Cluturally Responsive Classrooms	3
	EDUC 440	General Methods for Adolescent Learners	3
	INTD 355^	Critical Issues in Education	3
	ENG/MODL 350	Teaching English to Speakers of Other Languages	3
	EDUC 475	High School Student Teaching	7
	EDUC 477	Jr High/Middle School Student Teaching	6

	Biology-Chem Required Courses		CREDITS
	BIOL 229/L	Introduction to Molecular Biology/Lab	4
	BIOL 364/L	Comparative Vertebrate Anatomy/Lab	4
	BIOL 422/L	Advanced Human Physiology/Lab	4
	CHEM 111/R/L	General Chemistry I/Recitation/Lab	5
	CHEM 113/R/L	General Chemistry II/Recitation/Lab	5
	CHEM 235/L	Analytical Chemistry/Lab	4
	CHEM 311/R/L	Organic Chemistry I/Recitation/Lab	5
	CHEM 312/R/L	Organic Chemistry II/Recitation/Lab	5
	NASC 202	Exploring STEM Careers	1
	NASC 450	Senior Seminar	1

	Choose 1 of the following:		CREDITS
	BIOL 313/L	Microbiology/Lab	4
	BIOL 365	Cell Biology	3

	Choose 2 semesters of chemistry w/lab from one sequence below		CREDITS
	PHYS 111	College Physics I	4
	PHYS 112	College Physics II	4
		or	
	PHYS 210	General Physics I	4
	PHYS 220	General Physics II	4

	Choose 2 courses w/lab from the following:		CREDITS
	BIOL 106/L^	Principles of Biology I/Lab	4
	BIOL 108/L	Principles of Biology II/Lab	4
	BIOL 202/L	Fundamentals of Human Anatomy/Lab	4
	BIOL 204/L	Fundamentals of Human Physiology/Lab	4

	Minimum 2 credits from following:		CREDITS
	CHEM 341	Physical Chemistry I	3
	CHEM 342	Physical Chemistry II	3
	CHEM 405	Biochemistry I	3
	CHEM 412	Medicinal Chemistry	3
	CHEM 425	Advanced Organic Chemistry	3
	CHEM 435	Advanced Inorganic Chemistry	3
	CHEM 441	Advanced Analytical Lab I	1
	CHEM 443	Advanced Analytical Lab II	1
	CHEM 496	Research	1-2

Example Course Sequence:

The following is a sample of a semester-by-semester approach to completing this program in 4 years.

YEAR 1			
FIRST SEMESTER			
COURSE		CREDITS	PREREQUISITES
EDUC 111^	Exploring Educational Systems	3	
EDUC 223	Child & Adolescent Development	3	
CHEM 111/R/L	General Chemistry I/Recitation/Lab	5	
BIOL 106/L^	Principles of Biology I/Lab	4	
LA-FSS	First Year Success Seminar	1	
JAN TERM			
COURSE		CREDITS	
LA-FWS	First-Year Writing Seminar	3	
SECOND SEMESTER			
COURSE		CREDITS	
EDUC 112	The Exceptional Learner	3	
CHEM 113/R/L	General Chemistry II/Recitation/Lab	5	CHEM 111
BIOL 108/L	Principles of Biology II/Lab	4	
LA-FCS	First-Year Communication Seminar	3	
		34	

YEAR 2			
THIRD SEMESTER			
COURSE		CREDITS	PREREQUISITES
EDUC 230^	Educational Psychology	3	
EDUC 202	Professional Learning Communities I	0.5	
CHEM 311/R/L	Organic Chemistry I/Recitation/Lab	5	CHEM 113
PHYS 111	College Physics I	4	
BIOL 229/L	Introduction to Molecular Biology/Lab	4	One year of Biology and one year of chemistry
JAN TERM			
COURSE		CREDITS	
FOURTH SEMESTER			
COURSE		CREDITS	
EDUC 204	Professional Learning Communities II	0.5	
EDUC 207	Integrating Technology into Classroom	3	
EDUC 246	Educational Assessment	3	
CHEM 312/R/L	Organic Chemistry II/Recitation/Lab	5	CHEM 311
PHYS 112	College Physics II	4	PHYS 111
BIOL 313	Microbiology/Lab	4	BIOL 229 or BIOL 260
		36	

4-Year Sample Schedule Cont.

YEAR 3			
FIFTH SEMESTER			
COURSE		CREDITS	PREREQUISITES
EDUC 302	Professional Learning Communities III	0.5	
ENG/MODL 350	Teaching English to Speakers of Other Lang	3	
CHEM 341*	Physical Chemistry I	3	CHEM 113, MATH 122
NASC 202	Exploring STEM Careers	1	
BIOL 364/L	Comparative Vertebrate Anatomy/Lab	4	BIOL 106/L and BIOL 108/L
LA-FQR	Quantitative Reasoning	3	
JAN TERM			
COURSE		CREDITS	
LA-EAH	Arts and Humanities	3	
SIXTH SEMESTER			
COURSE		CREDITS	
EDUC 304	Professional Learning Communities IV	0.5	
EDUC 343	Disciplinary Literacy	3	EDUC 230
INTD 355^	Critical Issues in Education	3	soph, junior, or senior standing
CHEM 235/L	Analytical Chemistry/Lab	4	CHEM 113
NASC 450	Senior Seminar	1	
LA-TFR	Faith, Reason, and Ethics	3	
		32	

YEAR 4			
SEVENTH SEMESTER			PREREQUISITES
COURSE		CREDITS	
EDUC 402	Professional Learning Communities V	0.5	Admission to program, junior or senior standing
EDUC 430	Culturally Responsive Classrooms	3	EDUC 343
EDUC 440	General Methods for Adolescent Learners	3	
BIOL 422/L	Advanced Human Physiology/Lab	4	BIOL 106/L, BIOL 108/L, and 1 year chemistry
LA-TBI	Big Issues - 2 courses	3	
LA-TCE	Creative Expression	3	
JAN TERM			
COURSE		CREDITS	
EIGHTH SEMESTER			
COURSE		CREDITS	
EDUC 475	High School Student Teaching	7	Completion of the program; professor approval required
EDUC 477	Jr High/Middle School Student Teaching	6	Completion of the program; professor approval required
		29.5	
	TOTAL CREDITS	131.5	