

**BACHELOR OF SCIENCE IN EDUCATION, Science and Mathematics Education
Chemistry Education
Program Sheet**

Effective for students admitted to the College of Education and Human Ecology beginning Summer 2017

COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
General Education (25-31 hours)		Pre-Major Requirements (65-66 hours)	
Writing (6)		Professional Pre-Major (9 hours)	
ENGLISH 1110.01 or 1110.02 or ¹ 1110.03	3	ESCE 2189S – First Education Experience Program (also fulfills Open Option GE)	3
³ 2 nd Level Writing Course (2367)	3	ESPHE 3410- Philosophy of Education (also fulfills Culture & Ideas GE)	3
		ESEPSY 5401 – Adolescent Learning & Dev in School Context or HDFS 2420 - Adolescence and Emerging Adult Development	3
²Literature (3)	3	Content (56-57)	
		CHEM 1210 (also fulfills Science GE)- Chemistry I ^L	5
²Arts (3)	3	CHEM 1220 (also fulfills Science GE) - Chemistry II ^L	5
		BIOL 1101, 1113, or 1114 (also fulfills Science GE) –Biology ^L	4
Math (5-7)		EARTHSCI 1100, 1110 , 1121, or 1122 (also fulfills Open Option GE) ^L - Earth Science ^L	3-4
Math Placement M or higher, MATH 1148 or Equiv	0-4	PHYSICS 1250 - Mechanics, Thermal Physics, Waves ^L	5
MATH 1149 or 1150	3-5	PHYSICS 1251 - E&M, Optics, Modern Physics ^L	5
		MATH 1151 – Calculus I ^L	5
^{2,3}Historical Study (3)	3	MATH 1152– Calculus II ^L	5
		CHEM 2210 (also fulfills Data Analysis GE) – Analytical Chemistry I ^L	5
³Social Sciences (6)	6	CHEM 2510 – Organic Chemistry I ^L	4
Take two social science courses from the University approved GE list. Choose from 2 different subcategories.		CHEM 2540 – Organic Chemistry Lab I ^L	2
		CHEM 2520 – Organic Chemistry II ^L	4
		BIOCHEM 4511 – Biological Chemistry ^L	4
University Requirement (1)		Major Requirements (43 hours)	
EHE 1100	1	EDUTL 5501 - Inclusion: Philosophical, Social, and Practice Issues	3
		EDUTL 5005 - Equity and Diversity in Education	3
		EDUTL 5442 – Teaching Reading Across the Curriculum	3
		EDUTL 5721 – Methods in Teaching STEM I	3
		EDUTL 5722 – Methods in Teaching STEM II	5
		EDUTL 5741 – Learning, Cognition, & Teaching in STEM	3
		EDUTL 5744 – Technologies Used in STEM	3
		EDUTL 5745 –Assessment in STEM I: Introduction	3
		EDUTL 5195 – Reflective Seminar	2
		EDUTL 4189 – Advanced Field Experience	3
		⁴ EDUTL 5191 – Supervised Student Teaching Internship	10
		EDUTL 5195 – Reflective Seminar	2
Major Admission Requirements: Competitive application process requiring completion of application. Students should consult their academic advisor to discuss eligibility and the application process. While a 2.75 CGPA is required for admission, meeting the minimum requirements does not guarantee admission.			
FREE ELECTIVES (0)		TOTAL HOURS REQUIRED	133-140
Successful completion of the Ohio Assessment for Educators examinations are required prior to student teaching. Cumulative grade point average of 2.75 required at time of graduation in order to be recommended for state of Ohio teacher licensure.			

¹ English 1110.03 must be taken concurrently with English 1193.03

² Students must complete two Global Issues courses, which are typically met by selecting Literature, Art, Cultures & Ideas, or Historical Study courses that meet this requirement.

³ Students must complete one Social Diversity in the US course, which is typically met by selecting a 2nd Writing, Historical Study, or Social Science course that meets this requirement.

⁴ A grade of B- or better is required.

^L Content required for state license. Cumulative grade point average of 2.75 required at time of graduation in these courses in order to be recommended for state of Ohio teacher licensure. Course grades transferred from other institutions will also be included in these GPA calculations.

Dual License Requirements: Students wishing to pursue a dual license will need to take and achieve a 2.75 CGPA in the following courses in addition to the major above.

Chemistry and Physics			
COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
PHYSICS 2300 – Intermediate Mechanics I	4	PHYSICS 4700 – Intro Electronics	3
PHYSICS 2301 – Intermediate Mechanics II	4	PHYSICS 5100 – Physics for Teachers	4
MATH 2153 – Calculus III	4		
*Note: Take BIOL 1113 or 1114 above for this dual license option		Additional Hours	23-39

Chemistry and Earth Sciences			
COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
EARTHSCI 1122 – Earth Through Time	4	EARTHSCI 5189.xx or 5580 – Field Geology	1-5
EARTHSCI 2203 or ENR 2100 – Intro to Environmental Science	3	GEOG 5900 – Weather, Climate, and Global Warming	3
EARTHSCI 2204 – Exploring Water Issues	3	ASTRON 1101, 1140, 1142, or 1143 – Astronomy	3-4
EARTHSCI 2206, 5206, 5584 – Oceanography	2-3	EEOB 3310 or ANTHRO 3315 – Evolution	3-4
*Note: Take BIOL 1114 and EARTHSCI 1121 above for this dual license option		Additional Hours	22-29

Chemistry and Life Sciences			
COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
BIOL 1114 – Biological Sciences: Form, Function, Diversity and Ecology	4	MICROBIOL 4000 – Microbiology	4
EARTHSCI 1122 – Earth Through Time	4	MOLGEN 3300 – General Plant Biology	3
EEOB 3310 - Evolution	4	MOLGEN 4500 – General Genetics	3
*Note: Take BIOL 1113 above for this dual license option		Additional Hours	22

Integrated Science			
COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
BIOL 1114 – Biological Sciences: Form, Function, Diversity, and Ecology	4	MOLGEN 4500 – General Genetics	3
EEOB 3310 – Evolution	4	EARTHSCI 2203 or ENR 2100 – Intro to Environmental Science	3-5
MICROBIOL 4000 – Microbiology	4	EARTHSCI 1122 – Earth Through Time	4
MATH 2153 – Calculus III	4	EARTHSCI 2206, 5206 or 5584 – Oceanography	2-3
PHYSICS 2300 – Intermediate Mechanics I	4	GEOG 5900 – Weather, Climate, and Global Warming	3
PHYSICS 2301 – Intermediate Mechanics II	4	ASTRON 1101, 1140, 1142, or 1143 – Astronomy	3-4
*Note: Take BIOL 1113 and EARTHSCI 1121 above for the Integrated Science option		Additional Hours	42-46