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

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

COURSE & NUMBER	HRS	COURSE & NUMBER	HRS
		Pre-Major Requirements (72-75)	
General Education (25-29 hours)		**Professional Pre-Major (9 hours)**	
Writing (6)		ESCE 2189S – First Education Experience Program (also fulfills Open Option GE)	3
ENGLISH 1110.01 or 1110.02 or [1]1110.03	3	ESPHE 3410- Philosophy of Education (also fulfills Culture & Ideas GE)	3
[3] 2nd Level Writing Course (2367)	3	ESEPSY 5401 – Adolescent Lrnng & Dev in School Context or HDFS 2420 - Adolescence and Emerging Adult Development	3
		Content (63-66)	
[2] Literature (3)	3	MATH 1151 (also fulfills Quant Rsn GE) -Calculus I [L]	5
		CHEM 1210 (also fulfills Science GE)- Chemistry I [L]	5
[2] Arts (3)	3	CHEM 1220 (also fulfills Science GE) - Chemistry II [L]	5
		BIOL 1113 (also fulfills Science GE) - Biology I [L]	4
Math (0-4)		BIOL 1114 - Biology II [L]	4
Math Placement M or higher, MATH 1148 or Equiv	0-4	EARTHSCI 1100, 1110, 1121, or 1122 (also fulfills Open Option GE) – Earth Science [L]	3-4
Math 1149 or 1150		PHYSICS 1200 or 1250 - Mchnics, Thrml Physics, Waves [L]	5
[2] Historical Study (3)	3	PHYSICS 1201 or 1251 - E&M, Optics, Modern Physics [L]	5
		CHEM 2510 – Organic Chemistry I [L]	4
Data Analysis (3)		BIOCHEM 4511 – Biological Chemistry [L]	4
STAT 1350 - Elementary Statistics	3	MOLGEN 4500 – General Genetics [L]	3
		EEOB 3310 – Evolution [L]	4
[3] Social Sciences (6) Take two social science courses from the University approved GE list. Choose from 2 different subcategories.	6	EEOB 2210, 2520, 4220, or 5930 [L] – Biodiversity of Ohio - Plants, Human Physiology, Focused Study of Ecology – Mammals, and Evolution or Ichthyology (Stone Lab)	2-3
		EEOB 3320 – Organismal Diversity [L]	3
University Requirement (1)		MICROBIOL 4000 or 4100 - Microbiology [L]	4-5
EHE 1100	1	MOLGEN 3300 – Plant Biology [L]	3
		Major Requirements (43 hours)	
		EDUTL 5501 - Inclusion: Philos, 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
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.		EDUTL 5195 – Reflective Seminar	2
		EDUTL 4189 – Advanced Field Experience	3
		[4]EDUTL 5191 – Supervised Student Teaching Internship	10
		EDUTL 5195 – Reflective Seminar	2
FREE ELECTIVES (0)		**TOTAL HOURS REQUIRED**	140- 147

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 (and overall) 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.

Life Science and Earth Science			
COURSE & NUMBER	**HRS**	**COURSE & NUMBER**	**HRS**
EARTHSCI 1122 - Earth Through Time	4	EARTHSCI 2206, 5206 or 5584 Oceanography	2-3
ASTRON 1101, 1140, 1142, or 1143 - Astronomy	3	EARTHSCI 5189.06 or 5580- Field Geology	3
EARTHSCI 2203 or ENR 2100 – Intro to Environmental Sci	3	GEOG 5900 Weather, Climate, and Global Warming	3
EARTHSCI 2204 - Water Issues	3	MATH 1152 – Calculus II	5
*Note: Take EarthSci 1121, PHYSICS 1250 and 1251 above for this dual license option.		**Additional Hours**	26-27

Life Science and Chemistry			
COURSE & NUMBER	**HRS**	**COURSE & NUMBER**	**HRS**
CHEM 2210 - Analytical Chemistry I: Quantitative Analysis	5	MATH 1151 - Calculus I	5
CHEM 2520 – Organic Chemistry II	4	MATH 1152 - Calculus II	5
CHEM 2540 or BIOCHEM 5621 - Organic Chemistry Lab	2-4		
*Note: Take EARTHSCI 1121, PHYSICS 1250, and 1251 above for this dual license option		**Additional Hours**	21-23

Life Science and Physics			
COURSE & NUMBER	**HRS**	**COURSE & NUMBER**	**HRS**
MATH 1151 - Calculus I	5	PHYSICS 2300 - Intermediate Mechanics I	4
MATH 1152 - Calculus II	5	PHYSICS 2301- Intermediate Mechanics II	4
MATH 2153 - Calculus III	4	PHYSICS 4700 - Introductory Electronics for Physicists	3
*Note: Take PHYSICS 1250 and 1251 above for this dual license option		**Additional Hours**	25

Integrated Science	**HRS**	**COURSE & NUMBER**	**HRS**
MATH 1151 - Calculus I	5	ASTRON 1101, 1140, 1142, or 1143 - Astronomy	3-4
MATH 1152 - Calculus II	5	EARTHSCI 1122 - Earth Through Time	4
MATH 2153 - Calculus III	4	EARTHSCI 2203 or ENR 2100 – Intro to Environmental Sci	3
PHYSICS 2300 - Intermediate Mechanics I	4	EARTHSCI 2206, 5206 or 5584 Oceanography	2-3
PHYSICS 2301- Intermediate Mechanics II	4	GEOG 5900 Weather, Climate, and Global Warming	3
*Note: Take EARTHSCI 1121, PHYSICS 1250, and 1251 above for the Integrated Science option		**Additional Hours**	37-39