

STEM Education

Bachelor of Science in
Education



THE OHIO STATE UNIVERSITY

COLLEGE OF
EDUCATION AND HUMAN ECOLOGY



Effective for students admitted to the College of Education and Human Ecology beginning **Autumn 2022**

General Education Requirements (32-39 Hours)		HOURS
Launch Seminar		1
Reflection Seminar		1
Foundations (22-25 Hours)		
Writing & Information Literacy		3
Mathematical & Quantitative Reasoning or Data Analysis		3-5
Literary, Visual & Performing Arts		3
Historical & Cultural Studies		3
Natural Science		4-5
Social & Behavioral Sciences		3
Race, Ethnic & Gender Diversity		3
Thematic Pathways (8-12 Hours)		
Take 4-6 hours from Citizenship for a Diverse & Just World and 4-6 hours from another Thematic Pathway of choice.		
Citizenship for a Diverse & Just World		4-6
Choice of 4-6 hours from one additional Thematic Pathway:		4-6
Lived Environments Sustainability Health & Wellbeing	Origins & Evolution Traditions, Cultures, & Transformations Number, Nature, Mind	Migration, Mobility, & Immobility
EHE 1100 College Survey		1

Pre-Major Requirements (12 Hours)		HOURS
EDUCST 2189S First Education Experience Program (FEED)		3
ESPHE 3206 School & Society (can overlap with GE Race, Ethnic, & Gender Div.), or ESPHE 4280 History of Modern Edu.		3
ESEPSY 2309 Psychological Perspectives on Education		3
ESEPSY 5401 Adolescent Learning & Dev. in School Contexts, or HDFS 2420 Adolescence & Emerging Adult Dev.		3
Content Requirements (51-58 Hours)		HOURS
Must maintain a minimum 2.75 GPA in Content Requirements		
Content Core All students, regardless of teaching licensure area, must complete Content Core		38
MATH 1151 Calculus I (can overlap with GE Math & Quantitative Reasoning or Data Analysis)		5
BIOLOGY 1113 Biological Sciences: Energy Transfer & Development (can overlap with GE Natural Science)		4
CHEM 1210 General Chemistry I		5
CHEM 1220 General Chemistry II		5
PHYSICS 1250 Mechanics, Work & Energy, Thermal Physics		5
PHYSICS 1251 E&M, Waves, Optics, Modern Physics		5
ASTRON 1102 From Planets to the Cosmos, ASTRON 1140 Planets & the Solar System, or ASTRON 1144 Stars, Galaxies, & the Universe		3
EARTHSC 1121 The Dynamic Earth		3
STAT 1350.xx Elementary Statistics, or STAT 1450.xx Introduction to the Practice of Statistics		3
Content Licensure Options Choose additional content for teaching licensure area from Page 3. Students are highly encouraged to complete Integrated Science. Must complete at least one area.		
Integrated Science (20 hours) Earth Science (13 hours) Life Science (19 hours)	Physics (18 hours) Chemistry (20 hours)	
Major Requirements (35 Hours)		HOURS
B- minimum grade required in all Major Requirements		
EDUTL 5501 Inclusion		3
EDUTL 5005 Equity & Diversity (can overlap with GE Citizenship for a Diverse & Just World)		3
EDUTL 5442 Teaching Reading Across the Curriculum		3
EDUTL 5721 Methods in Teaching STEM I		3
EDUTL 5722 Methods in Teaching STEM II		3
EDUTL 5744 Technologies Used in STEM		1.5
EDUTL 5745 Assessment in STEM I: Introduction		1.5
EDUTL 3189.07 Field Experience		1
EDUTL 4189.07 Advanced Field Experience: STEM Education		2
EDUTL 5195.07 Reflective Seminar: STEM Education		1+1+2
EDUTL 5191.07 Supervised Student Teaching Internship: STEM Education		10
Successful completion of the Ohio Assessment for Educators examinations is required prior to student teaching. To be recommended for state of Ohio teacher licensure, must maintain a 2.75 cumulative GPA, 2.75 content GPA, and earn a B- or higher grade in student teaching.		

Content Choices from Page 2 (in addition to Content Core)	
Integrated Science	20
BIOLOGY 1114 Biological Sciences: Form, Function, Diversity, & Ecology	4
ANATOMY 2300.04 Human Anatomy	4
BIOCHEM 4511 Biological Chemistry	4
EARTHSC 2122 Climate & Life Over Billions of Years on Earth	4
PHYSICS 2300 Intermediate Mechanics I	4
Earth Science	13
EARTHSC 2122 Climate & Life Over Billions of Years on Earth	4
EARTHSC 4450 Water, Ice, & Energy in Earth's System, or EARTHSC 2206 Oceanography, or EARTHSC/ENR 2155 Energy & Environment	3
GEOG 5900 Weather, Climate, & Global Warming, or GEOG 3901 Global Climate Change: Causes & Consequences	3
ENR 2100 Intro to Environmental Science, or ENR 2500 Intro to Sustainability, or ENR 2300 Society & Natural Resources	3
Life Science	19
BIOLOGY 1114 Biological Sciences: Form, Function, Diversity, & Ecology	4
MOLGEN 4500.xx General Genetics	3
EEOB 3310.xx Evolution	4
MICRBIO 4000.xx Basic & Practical Microbiology	4
Physics	18
MATH 1152 Calculus II	5
PHYSICS 2300 Intermediate Mechanics I	4
CSE 1222 Introduction to Computer Programming in C++ for Engineers & Scientists	3
PHYSICS 3700 Experimental Physics Instrumentation & Data Analysis Lab	3
ASTRON 2291 Basic Astrophysics & Planetary Astronomy	3
Chemistry	20
MATH 1152 Calculus II	5
CHEM 2210 Analytical Chemistry I: Quantitative Analysis	5
CHEM 2510 Organic Chemistry I	4
CHEM 2540 Organic Chemistry Lab I	2
BIOCHEM 4511 Biological Chemistry	4
Total Hours: 120-145 Free Electives to reach 120 Hours: 0 Minimum of 120 credit hours required for degree completion. Total Hours range is based on licensure area selection, requirement course choices and/or the number of credits that overlap between requirement areas. Students are encouraged to overlap as many credits as possible.	