

COURSE OF STUDY
Muskingum University
AYA Integrated Science/7-12

Academic Year: 2025-2026

Student Name: _____

Education candidates are required to earn a B- or better in all EDUC courses to move forward in the program. Additionally, education candidates are required to complete all hours and assignments in the EDUC 201 and 301 practicum courses to move forward in the program. Each practicum course is 1 credit hour. Practicum courses fulfill the field hours required by the Ohio Department of Higher Education to complete licensure.

Pre-Admission Courses

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
EDUC 110	Introduction to Education	1			
EDUC 112	Educational Implications of Diversity (pre-co requisite EDUC 110)	3			
EDUC 101	Introductory Field Practicum 101 (co-requisite EDUC 112)	1			
EDUC 215	Educational Psychology	3			

Non-practicum Courses (Admission to Education Program Required)

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
EDUC 335	Educational Technology	3			
EDUC 341	Assessment in Education (pre-requisite EDUC 313) (pre-co requisite EDUC 330)	3			

Practicum 201 Courses – General Methods Courses

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
EDUC 313	Curriculum and Instruction for the Adolescent (offered only in fall) (EDUC 201 co-requisite)	3			
EDUC 330	Serving Individuals with Exceptionalities (offered only in fall) (EDUC 201 co-requisite)	3			
EDUC 375	Professional Practices in AYA Education (co-requisite EDUC 201)	3			
EDUC 201	Intermediate Field Practicum SP___ FA___ SP___ FA___ SP___ FA___ TOTAL___				

Practicum 301 Courses – Content Method Courses

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
EDUC 384	Integrated Science Methods for Middle Childhood and AYA educators (pre-requisite EDUC 313) (offered only in odd spring) (EDUC 301 co-requisite)	3			
EDUC 413	Reading in the Content Areas (pre-requisite EDUC 313, or EDUC 370, EDUC 371) (EDUC 301 co-requisite)	3			
EDUC 301	Advanced Field Practicum SP___ FA___ SP___ FA___ SP___ FA___ TOTAL___				

Professional Semester

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
EDUC 418	Professional Practices in Teacher Education	2			
EDUC 419	Co-Teaching and Collaboration in Education	2			
EDUC 420	Pro-Active Approaches to Classroom Management and Support	2			
EDUC 451	Student Teaching in the Secondary Schools	9			
EDUC 461	Student Teaching Seminar	1			

Total Course Hours 45
Total Practicum Hours _____

All content area courses require a B- or better. Any course not meeting the grade of B- requires discussion with Education Advisor and Education Department Chair to determine further action.

Content Area Licensure Courses

Core Science Courses

Course #	Course Name	Credit Hours	Term Planned	Grade	Final Audit
BIOL 111	Organismal Biology I and	3			
BIOL 107	Biology Laboratory I (offered only Fall)	1			
BIOL 112	Organismal Biology II and	3			
BIOL 108	Biology Laboratory II (offered only in Spring)	1			
EXSC 131	Human Structure and Function OR (offered only in Fall)	4			
BIOL 121	Anatomy and Physiology I OR (offered only in Fall)	4			
BIOL 122	Anatomy and Physiology II (offered only in Spring)	4			
CHEM 111	General Chemistry I	4			
CHEM 112	General Chemistry II (offered only in Spring)	4			
PHEN 121	Classical Physics I (pre- or co-requisite MATH 190)	4			
PHEN 122	Classical Physics II (pre-requisite PHEN 121, pre- or co-requisite MATH 200)	4			
PHEN 150	Introduction to Astronomy	4			
GEOL 101	Introduction to Geology OR	4			
GEOL 110	Environmental Geology	4			
GEOG 321	Weather and Climate	3			
MATH 190	Calculus I (pre-requisite MATH 180 or MATH ACT 24 or MATH SAT 576)	4			
MATH 140	Statistics (pre-requisite MATH 140 or MATH ACT 18 or MATH SAT 471) (for Biology, Earth Science Majors ONLY)	3			
MATH 200	Calculus II (pre-requisite MATH 190) (for Chemistry and Physics Majors ONLY)	4			

Total Core Requirements 46/47

Integrated Science Licensure requires a major in one of the following areas: Life Science, Chemistry, Earth Science, or Physics with the advisement of the department of chosen major.

Biology Major Additional Courses

BIOL 226	Introduction to Cell and Molecular Biology (pre-requisite BIOL 112/108, or 121 or 122) (offered only in Fall)	3			
BIOL 304	Evolution (pre-requisite BIOL 111/107, 112/108)	4			
BIOL 306	Genetics (pre-requisite BIOL 112/108, or 121 or 122) (offered only in Fall)	4			
BIOL 308	General Ecology (pre-requisite BIOL 111/107) (offered only in Fall)	4			
BIOL 221	Vascular Plant Systematics (pre-requisite BIOL 111/107) (offered Even Fall)	4			
BIOL 336	Cellular Physiology (pre-requisite BIOL 112/108, 226, CHEM 111, 112) (offered only in SP)	4			
BIOL 420	Senior Seminar (offered only in Spring)	3			

Total Biology Hours 26

Chemistry Major Additional Courses

CHEM 213	Organic Chemistry I (pre-requisite CHEM 112) (offered only in Fall)	4			
CHEM 214	Organic Chemistry II (pre-requisite CHEM 213) (offered only in Spring)	4			
CHEM 230	Foundational Inorganic Chemistry (pre-requisite CHEM 112)	3			
CHEM 250	Professional Development of Chemistry (pre-requisite CHEM 112)	1			
CHEM 315	Physical Chemistry (pre-requisite CHEM 112) (co-requisite MATH 200 PHEN 121) (offered only in Fall)	4			
CHEM 335	Analytical Chemistry (pre-corequisite CHEM 315) (offered only in Fall)	4			
CHEM 355	Advanced Laboratory in Chemistry (pre-requisite CHEM 214, 315) (offered only in Fall)	3			
CHEM 418	Biochemistry I (pre-requisite CHEM 214) (offered Odd Fall)	4			
CHEM 454	Chemistry Seminar and Literature Research (pre-requisite CHEM 250) (co-requisite CHEM 355)	2			
CHEM 455	Chemistry Senior Seminar and Laboratory Research (inorganic option Spring ONLY) (pre-requisite CHEM 355, 454)	4			

Total Chemistry Hours 33

Earth Science Major Additional Courses					
GEOL 104	Earth History (pre-requisite GEOL 101 or 110) (offered only in Spring)	4			
GEOL 200	Oceanography (offered Odd Fall)	3			
GEOL 220	Landform Evolution	3			
GEOL 301	Mineralogy (offered only in Fall)	4			
GEOL 302	Igneous and Metamorphic Petrology (pre-requisite GEOL 101 or 110, 301) (offered only in Spring)	3			
GEOG 310	Introduction to Geographic Information Systems	3			
GEOL 311	Paleontology (pre-requisite Permission of Instructor) (offered only in Spring)	3			
GEOL 313	Structural Geology (pre-requisite GEOL 101 or 110, 104) OR	3			
GEOL 322	Sedimentology and Stratigraphy (pre-requisite GEOL 101 or 110, 104)	3			
GEOL 495	Literature Seminar	2			
GEOL 496	Senior Research	3			
Total Earth Science Hours		31			

TOTAL HOURS