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

**Academic Year**: 2024-2025 **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 | 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 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 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 466 | Professional Practices in Secondary Schools | 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** | 42 | | | |
| | **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<br>(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 ___