BACHELOR OF SCIENCE IN EDUCATION IN INTEGRATED SCIENCES (7-12) - ADOLESCENT LICENSE, BIOLOGY CONCENTRATION

Program Coordinator
Dr. M. Kathleen L. Cripe, Chairperson and Program Coordinator

OVERVIEW
In cooperation with various academic disciplines in the University, the Department of Teacher Education and Leadership Studies offers a four-year AYA Education Program (grades 7-12), Integrated Sciences/Biology Concentration, approved by the Ohio Department of Education. The AYA Integrated Sciences License, Grades 7-12 (Biology) as the primary concentration, Bachelor of Science in Education degree requires a minimum of 148-151 semester hours of course work. The Integrated Science license qualifies the license holder to teach all areas of science (Biology, Chemistry, Earth/Space, and Physics). This teaching field requires passage of the Ohio Assessments for Educators in order to be eligible to student teach.

EMPLOYMENT OPPORTUNITIES
Graduates of the Adolescent/Young Adult Program will be qualified to teach in the 7-12 classroom. Additional opportunities may be available in the private sector to tutor students.

Professional Dispositions
Teacher candidates are expected to display the following professional dispositions:

- Creating fairness in the classroom
- Providing an inclusive environment that is safe and conducive to learning
- Demonstrating the belief that all students can learn
- Fostering collaborative relationships to support student learning and well-being
- Exhibiting professional skills

FIELD EXPERIENCES AND STUDENT TEACHING
Students complete a number of field experiences to support the learning of content and best practices of teaching. Field experiences offer opportunities to provide varying levels of classroom support (observing, one-on-one tutoring, small group teaching, co-teaching, whole class teaching).

Field Experiences
- EDFN 1501 Introduction to Education
- EDFN 3708 Education and Society
- SPED 2630 Individuals with Exceptionalities in Society
- TERG 3711 Reading Application in Content Areas, Secondary Years
- SED 3706 Principles of Teaching Adolescents

Preclinical Field Experience
The preclinical experience is conducted in local schools and provides an opportunity for teacher candidates to complete an in-depth field experience prior to student teaching. This field experience requires a substantial time commitment, as teacher candidates spend the entire day in schools during designated weeks. The Adolescent/Young Adult preclinical experience is scheduled during the fall semester. Applications for the preclinical experience must be submitted on TaskStream one year in advance by September 1st.

- EDFN 3710 Educational Assessment
- SED 4800C Science Methods for Adolescent and Young Adult Learners

Student Teaching
Students complete a 16 week student teaching experience. Students must pass the edTPA performance-based assessment with a minimum score of 39 during this experience.

- SED 4842 Supervised Student Teaching: High School
- SED 4842A Student Teaching Seminar for Secondary Education

ADVICE
Advisement is provided by the Academic Advisors in the Beeghly Hall. Majors in this program must complete general education requirements, subject area curriculum requirements, reading course requirements, and professional education requirements. Prior to student teaching, all adolescent/young adult majors must complete a preclinical experience.

REQUIRED ASSESSMENTS
The Ohio Assessments for Educators (OAE) assesses the content area and professional (pedagogical) knowledge of candidates who are seeking initial Ohio educator license or adding a new license area. The assessments are aligned with Ohio’s New Learning Standards. Teacher candidates must pass these exams prior to student teaching.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>YSU 1500</td>
<td>Success Seminar</td>
<td>1-2</td>
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<tr>
<td>or SS 1500</td>
<td>Strong Start Success Seminar</td>
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<tr>
<td>or HONR 1500</td>
<td>Intro to Honors</td>
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General Education Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1550</td>
<td>Writing 1</td>
<td>3-4</td>
</tr>
<tr>
<td>or ENGL 1549</td>
<td>Writing 1 with Support</td>
<td></td>
</tr>
<tr>
<td>ENGL 1551</td>
<td>Writing 2</td>
<td>3</td>
</tr>
<tr>
<td>CMST 1545</td>
<td>Communication Foundations</td>
<td></td>
</tr>
<tr>
<td>MATH 1571</td>
<td>Calculus 1</td>
<td>4</td>
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Some courses are categorized in more than one knowledge domain. Courses can only be used once within the General Education model. Some majors prescribe specific GE courses. If a course has been added to the domains, it is required.

ARTS AND HUMANITIES

- Natural Sciences (2 courses, 1 lab) | 7 |
- This requirement met by courses in major |

SOCIAL SCIENCE

- Social Science GER | 6 |
- PSYC 1560 General Psychology | 6 |
- Social and Personal Awareness | 6 |

SUBJECT AREA CURRICULUM

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>MATH 1572</td>
<td>Calculus 2</td>
<td>4</td>
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</table>

Biology Concentration

- Both of the following: | 4 |
  - BIOL 2601 & 2601L General Biology: Molecules and Cells and General Biology: Molecules and Cells Laboratory |
  - BIOL 2602 & 2602L General Biology: Organisms and Ecology and General Biology: Organisms and Ecology Laboratory |

Select 14 s.h. from the following BIOL electives: | 14 |
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3741</td>
<td>Animal Diversity and Animal Diversity Laboratory</td>
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</tr>
<tr>
<td>BIOL 3702</td>
<td>Microbiology and Microbiology Laboratory</td>
<td></td>
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<tr>
<td>BIOL 3721</td>
<td>Genetics</td>
<td></td>
</tr>
<tr>
<td>BIOL 3762</td>
<td>Field Botany and Field Botany Laboratory</td>
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<tr>
<td>BIOL 3759</td>
<td>Evolution</td>
<td></td>
</tr>
<tr>
<td>BIOL 4890</td>
<td>Molecular Genetics and Molecular Genetics Laboratory</td>
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<tr>
<td>BIOL 3730</td>
<td>Human Physiology and Human Physiology Laboratory</td>
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If primary science concentration is Biology, then take the following:

- CHEM 1515 General Chemistry 1 and General Chemistry 1 Laboratory 4
- CHEM 1516 General Chemistry 2 and General Chemistry 2 Laboratory 4
- CHEM 3719 Organic Chemistry 1 and Organic Chemistry 1 Laboratory 4
- PHYS 2608 Sound 3
- PHYS 2610 General Physics 1 4
- PHYS 2610L General Physics Laboratory 1
- PHYS 2611 General Physics 2 4
- PHYS 2611L General Physics Laboratory 2
- GEOL 1505 Physical Geology and Physical Geology Laboratory 4
- GEOL 2602 Introduction to Oceanography 3
- GEOG 2630 Weather 3
- ASTR 1504 Descriptive Astronomy 3

Select one of the following CHEM electives:

- CHEM 2604 Quantitative Analysis and Quantitative Analysis Laboratory 5
- CHEM 3720 Organic Chemistry 2 and Organic Chemistry 2 Laboratory 4
- CHEM 3785 Biochemistry 1 3

Select a minimum of 3 s.h. from the following PHYS electives:

- PHYS 3703 Classical Mechanics and Dynamics 4
- PHYS 3705 Thermodynamics and Classical Statistical Dynamics 3
- PHYS 3705L Thermodynamics and Classical Statistical Mechanics Laboratory 1
- PHYS 3704 Modern Physics 4
- PHYS 3704L Modern Physics Laboratory 1
- PHYS 3722 Advanced Optics and Light 3
- PHYS 3722L Advanced Optics Laboratory 1
- PHYS 4805 Undergraduate Physics Research 3
- PHYS 2607 Physical Science for Middle and Secondary Education 4

Select one of the following E/SS electives:

- ENST 2600 Foundations of Environmental Studies 3
- GEOG 3703 Human Impacts on the Environment 3
- GEOG 3730 Global Climates 3
- GEOL 3720 Field Investigations in Geology 1-4

### Professional Education Curriculum

- TCED 1500 Introduction to Becoming a Teacher First Year Experience Course BCOE 3
- PSYC 3709 Psychology of Education 3
- EDFN 1501 Introduction to Education 3
- SPED 2630 Individuals with Exceptionalities in Society 3
- EDFN 3708 Education and Society 3
- SED 3706 Principles of Teaching Adolescents 3

### Upper Division

- Formal Admission to Teacher Education (Upper-Division) is required before teacher candidates are allowed to enroll in certain junior and senior level courses in TELS.

### Upper Division Requirements:

- Completion of 50 SH
- Minimum 2.75 overall GPA
- “B” average or better (A-C, B-B, A-B) for ENGL 1550 and ENGL 1551.
- If failure to meet “B” average above must also complete:
  - ENGL 2601 grade of “B” or better.
- If you receive a “C” or below you will need to retake the course.
- “B” average or better (B-B-B, A-B-C) across the following:
  - EDFN 1501
  - CMST 1545
  - SPED 2630, GEOL 1505, BIOL 2602, CHEM 1516, PHYS 2610

### Admission to Preclinical and Evaluation for Graduation

- Request must be submitted to TaskStream one year prior to the intended preclinical semester no later than:
  - September 1— for Fall preclinical (Late applications may not be accepted)
  - February 1—for Spring preclinical (Late applications may not be accepted)
- Content GPA (2.67 minimum), Professional GPA (2.67 minimum), Overall GPA (2.75 minimum).
**Student Teaching**
- Student teaching application must be submitted following instructions found on the portal.
- Late applications will likely result in a delay to student teaching by one semester. Application and forms are due to the Office of Student Field Experience:
  - September 1— to Student Teach the following Spring Semester
  - February 1— to Student Teach the following Fall Semester
- Prerequisites:
  - BCOE Upper Division status
  - Overall 2.75 GPA
  - Minimum of 2.67 GPA in subject area curriculum and 2.67 in professional education courses with no grade less than a “C”
  - Passage of OAE test(s) and ACTFL tests for foreign language

**Completing a Bachelor of Science in Education with Licensure**
- Successful completion of student teaching (endorsed) with CPAST average score of 2 with no zeros
- Minimum score of 39 on edTPA, with the exception of a 34 for Foreign Language

**Completing a Bachelor of Science in Education without Licensure**
- A teacher candidate may choose to graduate without licensure. Teacher candidates who wish to graduate without licensure must take TCED 4830 (3 SH) capstone course in place of student teaching.

### Year 1
**Fall**
- YSU 1500 Success Seminar 1 S.H.
- ENGL 1550 Writing 1 3
- MATH 1571 Calculus 1 4
- CHEM 1515 & 1515L General Chemistry 1 and General Chemistry 1 Laboratory 4
- BIOL 2601 & 2601L General Biology: Molecules and Cells and General Biology: Molecules and Cells Laboratory 4
- TCED 1500 Introduction to Becoming a Teacher First Year Experience Course BCOE 3

**Spring**
- ENGL 1551 Writing 2 3
- MATH 1572 Calculus 2 4
- EDFN 1501 Introduction to Education 3
- BIOL 2602 & 2602L General Biology: Organisms and Ecology and General Biology: Organisms and Ecology Laboratory 4
- CHEM 1516 & 1516L General Chemistry 2 and General Chemistry 2 Laboratory 4
- PSYC 1560 General Psychology 3

**Total Semester Hours** 19

### Year 2
**Fall**
- PHYS 2610 General Physics 1 4
- PHYS 2610L General Physics Laboratory 1 1
- CMST 1545 Communication Foundations 3
- GEOL 1505 & 1505L Physical Geology and Physical Geology Laboratory 4
- Biology Elective 4

**Spring**
- CHEM 3719 & 3719L Organic Chemistry 1 and Organic Chemistry 1 Laboratory 4
- GEOG 2630 Weather 3
- GEOL 2602 Introduction to Oceanography 3
- Social and Personal Awareness GER 3
- Biology Elective 3
- Physics Elective 3

**Total Semester Hours** 21

### Year 3
**Fall**
- CHEM 3719 & 3719L Organic Chemistry 1 and Organic Chemistry 1 Laboratory 4
- GEOG 2630 Weather 3
- GEOL 2602 Introduction to Oceanography 3
- Social and Personal Awareness GER 3
- Social Science GER 3

**Spring**
- SED 3706 Principles of Teaching Adolescents 3
- EDFN 3708 Education and Society 3
- TERE 3711 Reading Application in Content Areas, Secondary Years 3
- PHYS 2608 Sound 3
- TEMC 3707 Science/Technology/Society 3
- Social and Personal Awareness GER 3
- Social Science GER 3

**Total Semester Hours** 19-20

### Year 4
**Fall**
- EDFN 3710 Educational Assessment 3
- SED 4800C Science Methods for Adolescent and Young Adult Learners 3
- Arts and Humanities GER 3
- Chemistry Elective 3-5
- Biology Elective 3

**Spring**
- SED 4842 Supervised Student Teaching: High School 10
- SED 4842A Student Teaching Seminar for Secondary Education 2

**Total Semester Hours** 12

**Total Semester Hours** 149-152

### Learning Outcomes
The following learning outcomes are based on The Ohio Standards for the Teaching Profession. These standards were developed for use as a guide for teachers as they continually reflect upon and improve their effectiveness as educators throughout all of the stages of their careers. These standards serve as an important tool for teachers as they consider their growth and development in the profession. These standards in developing and content of our teacher education programs. They are interrelated and connect in teachers’ practice.

- Teachers understand student learning and development and respect the diversity of the students they teach.
• Teachers know and understand the content area for which they have instructional responsibility.
• Teachers understand and use varied assessments to inform instruction, evaluate and ensure student learning.
• Teachers plan and deliver effective instruction that advances the learning of each individual student.
• Teachers create learning environments that promote high levels of learning and achievement for all students.
• Teachers assume responsibility for professional growth, performance and involvement as an individual and as a member of a learning community.
• Teachers collaborate and communicate with students, parents, other educators, administrators and the community to support student learning. Teachers assume responsibility for professional growth, performance and involvement as an individual and as a member of a learning community.