BACHELOR OF SCIENCE IN EDUCATION IN INTEGRATED SCIENCES (7-12) - ADOLESCENT LICENSE, CHEMISTRY 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/Chemistry Concentration, approved by the Ohio Department of Education. The AYA Integrated Sciences License, Grades 7-12 (Chemistry as the primary concentration), Bachelor of Science in Education degree requires a minimum of 146-149 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 license 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

ADVISEMENT

Advisement is provided by the Academic Advisors in 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.

024 Integrated Science (for teacher candidates with Science concentration)

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or SS 1500	Strong Start Success Seminar	
or HONR 1500	Intro to Honors	
General Education Requirements		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
CMST 1545	Communication Foundations	3
Mathematics requirement		
MATH 1571	Calculus 1	4
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 (6 s.h.)		6
Natural Sciences (2 courses, 1 with lab) (7 s.h.)		
The required 7 s.h. are met with courses in major.		
Social Science (6 s.h.)		
PSYC 1560	General Psychology	3
Social Science elective		3
Social and Personal Awareness (6 s.h.)		6
Subject Area Curriculum		
MATH 1572	Calculus 2	4
Chemistry Concentration		
All of the following:		
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHEM 1516 & 1516L	General Chemistry 2 and General Chemistry 2 Laboratory	4

CHEM 2604 & 2604L	Quantitative Analysis and Quantitative Analysis Laboratory	5
CHEM 3719 & 3719L	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	4
CHEM 3720 & 3720L	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	4
CHEM Elective (select any 3000 or 4000 level course)		3
Take all the following for Chemistry concentration:		
BIOL 2601 & 2601L	General Biology 1: Molecules and Cells and General Biology I: Molecules and Cells Laboratory	4
BIOL 2602 & 2602L	General Biology 2: Organisms and Ecology and General Biology: Organisms and Ecology Laboratory	4
PHYS 2608	Sound	3
PHYS 2610	General Physics 1	4
PHYS 2610L	General Physics Laboratory 1	1
PHYS 2611	General Physics 2	4
PHYS 2611L	General Physics laboratory 2	1
GEOL 1505 & 1505L	Physical Geology and Physical Geology Laboratory	4
GEOL 2602	Introduction to Oceanography	3
GEOG 2630	Weather	3
GEOG 2630L	Weather Lab	1
ASTR 1504	Descriptive Astronomy	3
Select 5 s.h. from the following BIOL electives:		5
BIOL 3741 & 3741L	Animal Diversity and Animal Diversity Laboratory	
BIOL 3702 & 3702L	Microbiology and Microbiology Laboratory	
BIOL 3721	Genetics	
BIOL 3762 & 3762L	Field Botany and Field Botany Laboratory	
BIOL 3759	Evolution	
BIOL 4890	Molecular Genetics	
BIOL 4890L	Molecular Genetics Laboratory	
BIOL 3730	Human Physiology	
BIOL 3730L	Human Physiology Laboratory	
Select a minimum of 3 s.h. from the following PHYS electives:		3
PHYS 3703	Classical Mechanics and Dynamics	
PHYS 3705	Thermodynamics and Classical Statistical Dynamics	
PHYS 3705L	Thermodynamics and Classical Statistical Mechanics Laboratory	
PHYS 3704	Modern Physics	
PHYS 3704L	Modern Physics Laboratory	
PHYS 4805	Undergraduate Physics Research	
PHYS 2607	Physical Science for Middle and Secondary Education	
Select one of the following E/SS electives:		3-4
ENST 2600	Foundations of Environmental Science	
GEOG 3703	Human Impacts on the Environment	
GEOG 3730	Global Climates	
GEOL 3720	Field Investigations in Geology	
Professional Education Curriculum		
TCED 2600	Becoming an Education Professional	1
TCED 2601	Diversity and Equity in the Classroom	1
EDFN 1501	Introduction to Education	3
PSYC 3709	Psychology of Education	3
SPED 2630	Individuals with Exceptionalities in Society [1]	3
SPED 2630L	Individuals with Exceptionalities in Society Laboratory Experience	0
SED 3706	Principles of Teaching Adolescents [2]	3
EDFN 3708	Education and Society	3
TERG 3711	Reading Application in Content Areas, Secondary Years [2]	3
TEMC 3707	Science/Technology/Society [1,2]	3
Preclinical Curriculum		
TCED 4800L	Laboratory Experience for Teaching All Learners	0
SED 4800C	Science Methods for Adolescent and Young Adult Learners [2]	3
EDFN 3710	Educational Assessment	3
Student Teaching Curriculum		
SED 4842	Supervised Student Teaching: High School [2]	10
SED 4842A	Student Teaching Seminar for Secondary Education [2]	2
TCED 5888E	Seminar edTPA Review	1
Total Semester Hours		**148-151**

1 Prerequisites for preclinical curriculum.
2 Upper division course.

General Information

- **It is highly recommended that all teacher candidates meet with an academic advisor every semester.**
- Neither admission to the University nor declaration of a major related to a teaching field guarantees admission to the TELS Teacher Education Programs or candidacy for a teaching license.
- A grade of "C" or better is required in all courses. Some courses cannot be taken CR/NC. Check with an Advisor. Professional education and preclinical courses may only be repeated **one** time.

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) 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

- After completing a minimum of 50 SH, submit the following:
  - Upper Division application (Portal)
  - Good Moral Character Statement
  - Copy of BCI & FBI clearances
  - Writing prompt (Blackboard)
- Deadlines for submission for upper division status **(late applications may not be accepted)**:
  - **September 1**—to register for Upper Division Courses for Spring
  - **February 1**—to register for Upper Division courses for Summer & Fall

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		**S.H.**
YSU 1500	Success Seminar	1
ENGL 1550 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
MATH 1571	Calculus 1	4
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
BIOL 2601 & 2601L	General Biology 1: Molecules and Cells and General Biology I: Molecules and Cells Laboratory	4
TCED 2600	Becoming an Education Professional	1
TCED 2601	Diversity and Equity in the Classroom	1
	Semester Hours	**18-19**
Spring		
ENGL 1551	Writing 2	3
MATH 1572	Calculus 2	4
EDFN 1501	Introduction to Education	3
BIOL 2602 & 2602L	General Biology 2: 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
	Semester Hours	**21**
Year 2		
Fall		
CHEM 3719 & 3719L	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	4
PHYS 2610 & 2610L	General Physics 1 and General Physics Laboratory 1	5
CMST 1545	Communication Foundations	3
GEOL 1505 & 1505L	Physical Geology and Physical Geology Laboratory	4
SPED 2630	Individuals with Exceptionalities in Society	3
SPED 2630L	Individuals with Exceptionalities in Society Laboratory Experience	0
	Semester Hours	**19**
Spring		
CHEM 3720	Organic Chemistry 2	3
CHEM 3720L	Organic Chemistry 2 Laboratory	1
PHYS 2611 & 2611L	General Physics 2 and General Physics laboratory 2	5
ASTR 1504	Descriptive Astronomy	3
PSYC 3709	Psychology of Education	3
Arts and Humanities GER		3
Earth/Space Elective		3
	Semester Hours	**21**
Year 3		
Fall		
CHEM 2604	Quantitative Analysis	5
GEOL 2602	Introduction to Oceanography	3
GEOG 2630	Weather	3
GEOG 2630L	Weather Lab	1
Social and Personal Awareness GER		3
Physics Elective		3-4
	Semester Hours	**18-19**
Spring		
EDFN 3708	Education and Society	3
SED 3706	Principles of Teaching Adolescents	3
TERG 3711	Reading Application in Content Areas, Secondary Years	3
PHYS 2608	Sound	3
TEMC 3707	Science/Technology/Society	3
Social Science GER		3
Social and Personal Awareness Elective		3
	Semester Hours	**21**
Year 4		
Fall		
EDFN 3710	Educational Assessment	3
TCED 4800L	Laboratory Experience for Teaching All Learners	0
SED 4800C	Science Methods for Adolescent and Young Adult Learners	3
Arts and Humanities GER		3
Chemistry Elective		4-5
Biology Elective		5
	Semester Hours	**18-19**
Spring		
SED 4842	Supervised Student Teaching: High School	10
SED 4842A	Student Teaching Seminar for Secondary Education	2
TCED 5888E	Seminar edTPA Review	1
	Semester Hours	**13**
	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.