

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

Adolescent/Young Adult Education (7-12) Integrated Sciences, Chemistry Concentration

OVERVIEW

In cooperation with various academic disciplines in the University, the Department of Teacher Education 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 field also requires passage of the Ohio Assessments for Educators in order to be eligible to student teach.

| COURSE | TITLE | S.H. |
|---|--|------|
| General Education Requirements | | |
| Core Competencies | | 12 |
| ENGL 1550 | Writing 1 | |
| ENGL 1551 | Writing 2 | |
| CMST 1545 | Communication Foundations | |
| MATH 1571 | Calculus 1 | |
| General Education Knowledge Domains | | |
| 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 |
| Natural Sciences (2 courses, 1 lab) | | 7 |
| This requirement met by courses in major. | | |
| Social Science | | 6 |
| Social Science GER | | |
| PSYC 1560 | General Psychology | |
| Social and Personal Awareness | | 6 |
| General Education Elective / First-Year Experience | | 3 |
| TCED 1500 | Introduction to Becoming a Teacher First Year Experience Course BCOE | |
| 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 |
| If primary science concentration is Chemistry, then take the following: | | |
| BIOL 2601 & 2601L | General Biology: Molecules and Cells and General Biology: Molecules and Cells Laboratory | 4 |
| BIOL 2602 & 2602L | General Biology: 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 |
| ASTR 1504 | Descriptive Astronomy | 3 |
| Select 5 s.h. from the following BIOL electives: | | |
| BIOL 3741 & 3741L | Animal Diversity and Animal Diversity Laboratory | 4 |
| BIOL 3702 & 3702L | Microbiology and Microbiology Laboratory | 4 |
| BIOL 3721 | Genetics | 3 |
| BIOL 3762 & 3762L | Field Botany and Field Botany Laboratory | 4 |
| BIOL 3759 | Evolution | 3 |
| BIOL 4890 | Molecular Genetics | 3 |
| BIOL 4890L | Molecular Genetics Laboratory | 1 |
| BIOL 3730 | Human Physiology | 4 |
| BIOL 3730L | Human Physiology Laboratory | 1 |
| 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 |
| GEOL 2615 | Geology and the Environment 1 | 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 | | |
| FOUN 1501 | Introduction to Education | 3 |
| PSYC 3709 | Psychology of Education | 3 |
| SPED 2630 | Individuals with Exceptionalities in Society ¹ | 3 |
| SED 3706 | Principles of Teaching Adolescents ² | 3 |
| FOUN 3708 | Education and Society ^{1,2} | 3 |

| | | |
|------------------------------------|--|----|
| TERG 3711 | Reading Application in Content Areas, Secondary Years ² | 3 |
| TEMC 3707 | Science/Technology/Society ^{1,2} | 3 |
| Preclinical Curriculum | | |
| FOUN 3710 | Educational Assessment ² | 3 |
| SED 4800C | Special Methods: Science ² | 3 |
| Student Teaching Curriculum | | |
| SED 4842 | Supervised Student Teaching: High School ² | 10 |
| SED 4842A | Student Teaching Seminar for Secondary Education ² | 2 |
| Total Semester Hours: 146-149 s.h. | | |

¹ Prerequisites for preclinical curriculum.

² Upper division course.

BCOE Notes:

- Neither admission to the University nor declaration of a major related to a teaching field guarantees admission to the BCOE's Teacher Education Programs or candidacy for a teaching license. Formal Admission to Teacher Education (Upper-Division) is required before students are allowed to enroll in junior and senior level courses in the college. Undetermined Education students must declare a major before applying for admission to the Teacher Education Program.
- Admission to the Teacher Education Program is obtained upon satisfactory completion of the following requirements:
 - Minimum completion of 50 s.h.
 - Minimum 2.75 overall GPA
- Meet one of the following criteria:
 - Overall GPA 3.4 or better, OR
 - ACT scores of Reading 21, English 18, Mathematics 22, OR
 - SAT scores of Reading 450, Writing 430, Mathematics 520, OR
 - Praxis CORE scores, Reading 156, Writing 162, Mathematics 150
- Grade of "B" or better in:
 - ENGL 1550
 - ENGL 1551
 - If failure to receive a grade of "B" or better in ENGL 1550 and ENGL 1551 - ENGL 2601 grade must be a "B" or better. If you receive a "C" or below, you will need to retake the course.
- Grade of "B" or better in the following courses. If you do not have a "B" or better, you will need to retake one or more of these courses until the "B" is achieved.
 - FOUN 1501
 - CMST 1545
 - SPED 2630
 - GEOL 1505 or BIOL 2602 or CHEM 1516 or PHYS 2610
- Professional education, preclinical, and student teaching courses may only be repeated one time.
- Minimum requirements for teachers' licenses are determined by the Ohio Department of Education; if those requirements change, they become effective immediately at Youngstown State University.

Program Notes:

- MATH 1571 is required and will also fulfill Math GER.

Upper Division Notes:

Upper Division Application (The application and forms must be completed and printed from the BCOE website.)

- After candidates have completed a minimum of 50 s.h., they should submit an Upper Division application along with the completion of the

Good Moral Character Statement, a copy of BCI and FBI clearances, and Dispositional Assessment to the BCOE Office of Student Services, room 2101, no later than:

- September 1 - to register for upper division courses for Spring
- February 1 - to register for upper division courses for summer and fall
- Each completed application must be reviewed and approved by the Upper Division Admission and Retention Committee. If all requirements are met, the student will be allowed to register for upper division courses the following semester. Applications submitted after the deadline will not be processed until the end of the respective semester.

Preclinical Application with Request for Graduation Evaluation

- The application must be completed and printed from the BCOE website.
- Preclinical application with the Graduation Evaluation Request summary is to be submitted one year prior to the intended preclinical semester to the BCOE Office of Student Services no later than
 - September 1 - for Fall preclinical
 - February 1 - for Spring preclinical
- Preclinical candidates are screened for eligibility because specific course and grade point average prerequisites must be met.

Student Teaching Notes:

- Prerequisites: BCOE upper division and senior status, overall 2.75 GPA, minimum of 2.67 GPA in subject area curriculum and professional education courses with no grade less than a "C", and passage of OAE test(s) and ACTFL tests for foreign language.
- Instructions for completing the Student Teaching application and forms are available on BCOE website. The application and forms must be completed and printed from the BCOE website and submitted to the BCOE Office of Student Services no later than:
 - September 1 - to student teach the following spring semester
 - February 1 - to student teach the following fall semester

Graduation Process

- Apply for graduation during the first three weeks of the semester you plan to graduate (you must have a graduation evaluation completed in advance).

Completing a Bachelor of Science in Education without Licensure:

- Students choosing to graduate without licensure must apply for approval to graduate without licensure at the BCOE Office of Student Services, 2101 Beeghly Hall, 330-941-3268.
- Once approved, students must complete all program requirements except for student teaching curriculum. In place of student teaching curriculum, students will take TCED 4830 Undergraduate Capstone Course for Education Majors.

General Education Requirements:

- All students must satisfy General Education requirements; some majors, prescribe specific GE courses.
- Courses taken for the major may be applied toward satisfying General Education requirements but credit hours toward graduation cannot be double counted.
- Approved General Education courses can be found <http://web.yzu.edu/ger>.

Advisement:

- Freshmen, athletes, and students on warning and probation are required to meet with an advisor before registration.
- It is recommended that all majors meet with a faculty advisor every semester.

Financial Aid:

- Eligibility to continue receiving federal financial aid is affected by your "satisfactory academic progress." Carefully review details on the Office of Financial Aid and Scholarship website, <http://cfweb.cc.ysu.edu/finaid/index.cfm> or http://cfweb.cc.ysu.edu/finaid/sec_sap.cfm.

Other:

- Residency rule requires the last 30 semester hours of your degree and at least 16 semester hours in your major and 21 semester hours in upper-division courses to be completed at YSU.

| Course | Title | S.H. |
|-------------------------|--|-----------|
| Year 1 | | |
| Fall | | |
| 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 |
| Semester Hours | | 18 |
| Spring | | |
| ENGL 1551 | Writing 2 | 3 |
| MATH 1572 | Calculus 2 | 4 |
| FOUN 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 |
| 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 |
| Semester Hours | | 19 |
| Spring | | |
| CHEM 3720 & 3720L | Organic Chemistry 2 and Organic Chemistry 2 Laboratory | 4 |
| 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 & 2604L | Quantitative Analysis and Quantitative Analysis Laboratory | 5 |

| | | |
|--|---|----------------|
| GEOL 2602 | Introduction to Oceanography | 3 |
| GEOG 2630 | Weather | 3 |
| Social and Personal Awareness GER | | 3 |
| Physics Elective | | 3-4 |
| Semester Hours | | 17-18 |
| Spring | | |
| FOUN 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 | | |
| FOUN 3710 | Educational Assessment | 3 |
| SED 4800C | Special Methods: Science | 3 |
| Arts and Humanities GER | | 3 |
| Chemistry Elective | | 3-5 |
| Biology Elective | | 5 |
| Semester Hours | | 17-19 |
| Spring | | |
| SED 4842 | Supervised Student Teaching: High School | 10 |
| SED 4842A | Student Teaching Seminar for Secondary Education | 2 |
| Semester Hours | | 12 |
| Total Semester Hours | | 146-149 |