

## SCHOOL OF BEHAVIORAL SCIENCES AND EDUCATION SECONDARY EDUCATION

### GOALS

The objectives for secondary education professional methodology are as follows:

1. Demonstrate effective techniques of communication.
2. Exhibit critical, logical, and rational decision making, individual awareness, and positive self-concept.
3. Possess knowledge of subject content and demonstrate relevant teaching techniques or delivery of such content.
4. Organize and implement modules and evaluate the modular system of instruction.
5. Evaluate and predict adolescent behavior and incorporate effective procedures of prevention and remediation of disciplinary problems.
6. Employ a variety of creative learning activities.
7. Demonstrate personal qualities conducive to a psychologically healthy classroom.
8. Select, administer, record, and interpret scores.
9. Exhibit an awareness of the social, emotional, mental, intellectual, and cultural environment of each student.

### PROGRAMS OF STUDY

In the Department of Education at Southwestern Oklahoma State University, a student may choose majors in secondary education from English, history, mathematics, science, and social sciences. Advisement in all areas of secondary education is assigned by the major department (e.g., a Mathematics Education major will be advised by faculty in the Department of Mathematics).

- Majors:**
- B.A.Ed. English Education
  - B.A.Ed. History Education
  - B.S.Ed. Mathematics Education
  - B.S.Ed. Natural Science Education
    - General Concentration
    - Biology Concentration
    - Chemistry Concentration
    - Physics Concentration

### GENERAL INFORMATION

When a student chooses Secondary Education as a major, the student is preparing to teach in one of the secondary levels designated as middle, junior, and senior high schools. This preparation includes the general education, the major specialization professional education, and psychology components. On the secondary school level, teachers can expect to work with students ranging from grades 6 to 12 and often ages from 12 to 20. The students in these age groups are making many decisions that will influence future success or failure. Therefore, the secondary education teacher's responsibility is great and varied.

### 6-12 AREA OBJECTIVES

In the 6-12 subject area, content methodology objectives are as follows:

### ENGLISH

1. Recognize psychological, social, and professional needs for effective communication.
2. Identify and demonstrate the physical and mental processes of effective communication.
3. Describe and apply the techniques for developing communication skills.
4. Demonstrate knowledge of the literature of communication and sources of information about the understanding and teaching of the language arts.
5. Exhibit the ability to communicate effectively and to understand others.
6. Explain through a variety of delivery methods significant authors, works, genres, historical backgrounds, and recurrent themes of literature and non-print media.
7. Demonstrate knowledge of diversity in national and world cultures through the study of literature.

### HISTORY

1. Students will be able to explain through a variety of delivery methods significant persons, events, institutions, ideas, and trends in the fields of American, World, and Oklahoma history.
2. Students will be able to explain significant historiographical debates in the fields of American, World, and Oklahoma history.
3. Students will demonstrate an understanding of historical methods including the proper use and interpretation of sources.
4. Students will be able to explain through a variety of delivery methods material in the fields of American, World, and Oklahoma history in accordance with the 15 Oklahoma General Competencies for Teacher Licensure and Certification.
5. Students will be able to explain through a variety of delivery methods material in American and World history in accordance with the recommended standards for history and the recommended standards for historical thinking.

### MATHEMATICS

1. Understand deeply the mathematics they will teach in the schools.
2. Establish learning objectives and plan for student involvement in the learning process.
3. Master and use several instructional methods, e.g., lecture, group activity, and discovery.
4. Plan for and use appropriate resources: texts, multimedia, microcomputers and resource personnel.
5. Organize instruction accommodating individual differences.
6. Design a learning environment in the classroom.
7. Demonstrate planning for community involvement and for personal/professional growth in education.

### **NATURAL SCIENCE**

1. Construct an instructional module complete with behavioral objectives, activities, and evaluation.
2. Select and present a sample lesson from the instructional module.
3. Organize and conduct a school science laboratory.
4. Complete an equipment and supplies laboratory.
5. Prepare a display, such as a bulletin board.
6. Conduct and/or participate in a typical school science field trip.
7. Select and present abstract materials on science education.
8. Identify elementary sciences as an investigation process.
9. Provide experiences in elementary science which enhance students' thinking skills.
10. Present selected content and concepts in elementary science, which increase environmental understanding and appreciation.
11. Provide experiences which demonstrate how children learn science.
12. Provide experiences in utilizing science materials in elementary schools.
13. Provide insights into the value of reading professional periodicals and joining professional organizations in the area of their specialization.
14. Provide a sound background in the principles and concepts of the physical and life sciences.

## BACHELOR OF ARTS IN EDUCATION ENGLISH EDUCATION (Code No. 707)

### GENERAL EDUCATION

Courses that are **required** are in bold type.

Courses that are *recommended* are in italics.

**TOTAL GENERAL EDUCATION HOURS** ..... **Min. 40**

**REQUIRED CORE COURSES**..... **31-35**

**Written Communication**..... **6**

**ENGL 1113 English Composition I**  
**ENGL 1213 English Composition II**

**Mathematics**..... **3**

*Select one course.*

MATH 1143 Mathematical Concepts  
MATH 1153 Mathematical Applications  
MATH 1513 College Algebra  
or a higher numbered math course

**U. S. History** ..... **3**

*Select one course.*

HIST 1043 U.S. History to 1877  
HIST 1053 U.S. History since 1877

**American Government**..... **3**

**POLSC 1103 American Government & Politics**

**Science** ..... **7-8**

*Select one course from Life Science and one course from Physical Science. One Science course must be a lab science.*

**Life Science**..... **4**

BIOL 1004 Biological Concepts w/Lab  
BIOL 1054 Principles of Biology I w/Lab  
BIOL 1013 Current Issues in Biology

**Physical Science**..... **3-4**

ASTRO 1904 Astronomy  
CHEM 1004 General Chemistry w/Lab  
GEOL 1934 Physical Geology w/Lab  
SCI 1513 Conc of Phy Science (may also take w/lab)  
SCI 1501 Concepts of Phy Science Lab  
PHY 1044 Basic Physics I w/Lab  
PHY 1063 General Physics  
or a higher numbered chemistry or physics course

**Humanities** ..... **6**

**HUM 1103 Introduction to Humanities**  
**AND**  
**LIT 2413 Introduction to Literature**

**Human, Cultural, & Social Diversity** ..... **3-4**

**PSYCH 1003 General Psychology**

**Computer Proficiency**..... **0-3**

Students must demonstrate computer proficiency (high school Computer Science course, SWOSU computer proficiency exam, or COMSC 1023 Computer & Info Access).

**GE electives (from at least two different categories) ..... to total 40**

**COMM 1313 Introduction to Public Speaking**

### ENGLISH EDUCATION MAJOR

**Required Courses**..... **35**

ENGL 3013 Writing: Exploration and Practice  
ENGL 3603 English Grammar  
ENGL 4423 Introduction to Linguistics  
LIT 3023 The Art of Reading  
ENGL 4882 English Senior Capstone  
LIT 3033 World Mythology  
LIT 3323 Modern Voices in American Literature  
LIT 4123 British Literature 1795-1950  
LIT 4233 Young Adult Literature  
LIT 4553 Issues in American Literature  
LIT 4763 British Literary Heritage to 1800  
LIT 4993 The Novel

**World Lit (select one course):** ..... **3**

LIT 3113 Early World Literature  
LIT 4113 Modern World Literature

**Guided Literature Elective (select one)** ..... **3**

LIT 3333 Shakespeare in Context  
LIT 3343 World Folk Literature  
LIT 4593 Diversity in American Literature  
LIT 4883 Women and Literature

**Guided Writing Elective (select one)** ..... **3**

ENGL 3473 Creative Writing of Fiction I  
ENGL 3483 Creative Writing of Poetry I  
ENGL 3653 Writing in the Disciplines  
ENGL 3663 Creative Nonfiction I  
ENGL 4453 Advanced Composition  
ENGL 4773 Editing

**Free Elective (any course with a LIT/ENGL prefix)** ..... **3**

**Professional Education Requirements** ..... **36**

Certificate/Foundations Courses

†EDPSY 3433 Adolescent Psychology  
EDUC 2113 Foundations of Education  
†SPCED 3132 Exceptional Children

**Foreign Language Proficiency (Required)**

**Pre-Professional Semester**

EDPSY 3653 Educational Psychology (Sec)  
ENGL 4673 Teaching High School English  
LIBED 3423 Media & Technology  
SECED 4813 Educational Tests & Meas (Sec)  
SECED 4823 Principles of Teaching Secondary

**Professional Semester**

EDUC 3321 Multicultural/Special Populations  
EDUC 4021 Contemporary Issues in Education  
EDUC 4041 Classroom Management  
SECED 4865 Student Teaching in the Sec School  
SECED 4965 Student Teaching in the Sec School

**TOTAL HOURS**..... **123**

† SDE [Guidelines and Procedures Handbook for Certification](#), page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

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REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation .....	123
Minimum credit hours in the liberal arts & sciences.....	80
Minimum credit hours in upper-division (3000/4000 courses) .....	40
Minimum credit hours (3000/4000 courses) in major completed at SWOSU .....	8
Minimum credit hours at SWOSU (15 of the last 30) .....	30
Minimum Grade Point Average in all coursework.....	2.50

FOR INFORMATION CONTACT:

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## ENGLISH EDUCATION (Code 707) Suggested Course Sequence

### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshman Orient* (1) 1003 General Psychology (3) 1043 or 1053 US History (3) 1113 English Comp I (3) 1333 Intro to Public Speak (3) 2413 Intro to Literature (3)	1103 American Govt & Politics (3) 1143 Mathematical Concepts (3) 1213 English Comp II (3) Gen Educ Crses (3) Life Science (3-4)
<b>Total (16)</b>	<b>Total (15-16)</b>

### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1103 Introduction to Humanities (3) 3023 The Art of Reading (3) Elem For Lang I (4) English Proficiency Exam** Gen Educ Crses (3) Physical Science (3-4)	2113 Foundations of Educ (3) 3013 Writing: Exploration & Prac (3) 3323 Mod Voice in Amer Lit (3) 4123 Brit Lit 1795-1950 (3) 4233 Young Adult Lit (3)
<b>Total (16-17)</b>	<b>Total (15)</b>

### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
3033 World Myth (3) 3132 Exceptional Child*** (2) 4423 Intro to Linguistics (3) 4553 Issue in Amer Lit (3) 4763 British Lit to 1800 (3) Guided Writing Elective (3)	3433 Adolescent Psych*** (3) 3603 English Grammar (3) 4993 The Novel (3) Free LIT/ENGL Electives (3) Guided LIT Elective (3) World Lit (3)
<b>Total (17)</b>	<b>Total (18)</b>

### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
3423 Media & Tech (3) 3653 Educ Psych (Sec) (3) 4675 Teach H.S.English (5) 4813 Tests & Msrmnts (Sec) (3) 4823 Prin Teaching Sec (3)	3321 Multi/Special Pop (1) 4021 Contemp Issues in Educ (1) 4041 Classroom Mgmnt (1) 4865 Std Teaching Sec (5) 4882 English Senior Capstone (1) 4965 Std Teaching Sec (5)
<b>Total (17)</b>	<b>Total (14)</b>

\* First-time entering freshmen need to take 1001 Freshman Orientation

\*\* If applicable. See English Proficiency Program under the General Academic Information Section.

\*\*\* SDE [Guidelines and Procedures Handbook for Certification](#), page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

## BACHELOR OF ARTS IN EDUCATION HISTORY EDUCATION (Code No. 730)

### GENERAL EDUCATION

Courses that are **required** are in bold type.  
Courses that are *recommended* are in italics.

**TOTAL GENERAL EDUCATION HOURS** ..... **Min. 40**  
**REQUIRED CORE COURSES**..... **31-35**

**Written Communication**..... **6**

**ENGL 1113 English Composition I**  
**ENGL 1213 English Composition II**

**Mathematics**..... **3**

*Select one course.*

MATH 1143 Mathematical Concepts  
MATH 1153 Mathematical Applications  
MATH 1513 College Algebra  
or a higher numbered math course

**U. S. History** ..... **3**

*Select one course.*

HIST 1043 U.S. History to 1877  
HIST 1053 U.S. History since 1877

**American Government**..... **3**

**POLSC 1103 American Government & Politics**

**Science**..... **7-8**

*Select one course from Life Science and one course from Physical Science. One Science course must be a lab science.*

**Life Science**..... **3-4**

BIOL 1004 Biological Concepts w/Lab  
BIOL 1054 Principles of Biology I w/Lab  
BIOL 1013 Current Issues in Biology

**Physical Science**..... **3-4**

ASTRO 1904 Astronomy  
CHEM 1004 General Chemistry w/Lab  
GEOL 1934 Physical Geology w/Lab  
SCI 1513 Conc of Phy Science (may also take w/lab)  
SCI 1501 Concepts of Phy Science Lab  
PHY 1044 Basic Physics I w/Lab  
PHY 1063 General Physics  
or a higher numbered chemistry or physics course

**Humanities** ..... **6**

**HIST 1033 World History**

**AND one of the following:**

ART 1223 Art Survey  
COMM 1263 Introduction to Theatre  
LIT 2333 Introduction to Film  
LIT 2413 Introduction to Literature  
MUSIC 1013 Introduction to Music I  
MUSIC 1103 Music and Culture  
PHILO 1453 Introduction to Philosophy

**Human, Cultural, & Social Diversity** ..... **3**

**PSYCH 1003 General Psychology**

**Computer Proficiency**..... **0-3**

Students must demonstrate computer proficiency (high school Computer Science course, SWOSU computer proficiency exam, or COMSC 1023 Computer & Info Access).

**GE electives (from at least two different categories)** ..... **to total 40**

**COMM 1313 Introduction to Public Speaking**  
**SOCIO 1003 Introduction to Sociology**

### HISTORY EDUCATION MAJOR

**Core Requirement-Social Science**..... **6**

ECONO 2263 Intro to Macroeconomics  
**OR** ECONO 2363 Intro to Microeconomics  
GEOG 1103 World Cultural Geography

**Core Requirements-History** ..... **39**

HIST 1043 U.S. History to 1877  
**OR** HIST 1053 U.S. History since 1877 (one not taken in GE)  
HIST 2603 Writing History  
HIST 3000 level European and/or World Hist (12 hours)  
HIST 4000 level American History (15 hours)  
HIST 4093 Historical Research and Writing  
HIST 4353 Oklahoma History

**Professional Education Requirements** ..... **36**

**Certificate/Foundations Courses**

†EDPSY 3433 Adolescent Psychology  
EDUC 2113 Foundations of Education  
†SPCED 3132 Exceptional Children

**Foreign Language Proficiency (Required)**

**Pre-Professional Semester**

EDPSY 3653 Educational Psychology (Sec)  
LIBED 3423 Media & Technology  
SECED 4813 Educational Tests & Meas (Sec)  
SECED 4823 Principles of Teaching Secondary  
SOCSC 4133 Teachers' Course in Social Sciences

**Professional Semester**

EDUC 3321 Multicultural/Special Populations  
EDUC 4021 Contemporary Issues in Education  
EDUC 4041 Classroom Management  
SECED 4865 Student Teaching in the Sec School  
SECED 4965 Student Teaching in the Sec School

**TOTAL HOURS**..... **121**

† SDE [Guidelines and Procedures Handbook for Certification](#), page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

#### REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation..... 120  
Minimum credit hours in the liberal arts & sciences..... 80  
Minimum credit hours in upper-division  
(3000/4000 courses)..... 40  
Minimum credit hours (3000/4000 courses)  
in major completed at SWOSU ..... 8  
Minimum credit hours at SWOSU (15 of the last 30)..... 30  
Minimum Grade Point Average in all coursework..... 2.50

FOR INFORMATION CONTACT:

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## HISTORY EDUCATION (Code 730) Suggested Course Sequence

### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshman Orientation** (1) 1003 Intro to Sociology (3) 1043 United States History to 1877 (3) 1113 English Comp I (3) 1143 Math Concepts (3) 2263 Intro to Macroeconomics <b>OR</b> 2363 Intro to Microeconomics (3)	1004 Biological Concepts (4) 1033 World History (3) 1053 United States History Since 1877 (3) 1103 World Cultural Geography (3) 1213 English Comp II (3)
Total (16)	Total (16)

### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1003 General Psychology (3) 1103 American Govt & Politics (3) 1313 Intro to Public Speaking (3) 2113 Foundation in Education (3) 2603 Writing History (3) English Proficiency Exam*	3132 Exceptional Child*** (2) American History (3) General Education Courses (7) World History (3)
Total (15)	Total (15)

### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
3433 Adolescent Psychology*** (3) 4093 Historical Research/Writing (3) 4813 Education Test/Meas(Sec) (3) American History (3) World History (3)	3653 Education Psychology (3) 4353 History of Oklahoma (3) 4823 Princ of Tech Sec (3) American History (3) World History (3)
Total (15)	Total (15)

### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
Pre-Professional Semester 3423 Media & Technology (3) 4133 Teachers Course in the Social Sciences (3) American History (6) Electives (1) World History (3)	Professional Semester 3321 Multi-Cultural/Spec Pop (1) 4021 Contemp Issues in Education (1) 4041 Classroom Management (1) 4865 Student Teaching Sec (5) 4865 Student Teaching Sec (5)
Total (16)	Total (13)

\* If applicable. See English Proficiency Program under the General Academic Information Section.

\*\* First-time entering freshmen need to take 1001 Freshman Orientation.

\*\*\* SDE [Guidelines and Procedures Handbook for Certification](#), page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

## BACHELOR OF SCIENCE IN EDUCATION MATHEMATICS EDUCATION (Code No. 716)

### GENERAL EDUCATION

Courses that are **required** are in bold type.

Courses that are *recommended* are in italics.

**TOTAL GENERAL EDUCATION HOURS** ..... **Min. 40**  
**REQUIRED CORE COURSES**..... **31-35**

**Written Communication**..... **6**

**ENGL 1113 English Composition I**  
**ENGL 1213 English Composition II**

**Mathematics**..... **0**

*Waived due to major requirement*

**U. S. History** ..... **3**

*Select one course.*

HIST 1043 U.S. History to 1877  
HIST 1053 U.S. History since 1877

**American Government**..... **3**

**POLSC 1103 American Government & Politics**

**Science**..... **7-8**

*Select one course from Life Science and one course from Physical Science. One Science course must be a lab science.*

**Life Science**.....**3-4**

BIOL 1004 Biological Concepts w/Lab  
BIOL 1054 Principles of Biology I w/Lab  
BIOL 1013 Current Issues in Biology

**Physical Science**.....**3-4**

ASTRO 1904 Astronomy  
CHEM 1004 General Chemistry w/Lab  
GEOL 1934 Physical Geology w/Lab  
*SCI 1513 Conc of Phy Science (may also take w/lab)*  
*SCI 1501 Concepts of Phy Science Lab*  
PHY 1044 Basic Physics I w/Lab  
PHY 1063 General Physics  
or a higher numbered chemistry or physics course

**Humanities** ..... **6**

HUM 1103 Introduction to Humanities

**OR**

HIST 1033 World History

**AND one of the following:**

ART 1223 Art Survey  
COMM 1263 Introduction to Theatre  
LIT 2333 Introduction to Film  
LIT 2413 Introduction to Literature  
MUSIC 1013 Introduction to Music I  
MUSIC 1103 Music and Culture  
*PHILO 1453 Introduction to Philosophy*

**Human, Cultural, & Social Diversity** ..... **3-4**

**COMM 1313 Introduction to Public Speaking**

**Computer Proficiency**..... **0-3**

Students must demonstrate computer proficiency (high school Computer Science course, SWOSU computer proficiency exam, or COMSC 1023 Computer & Info Access).

**GE electives** (from at least two different categories) ..... **to total 40**

**PSYCH 1003 General Psychology**

FOR INFORMATION CONTACT:

Dr. Thomas McNamara, Chair  
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E-mail: math@swosu.edu

### MATHEMATICS EDUCATION MAJOR

**Required Courses** ..... **26-27**

MATH 1513 College Algebra **AND**  
MATH 1613 College Trigonometry  
**OR**  
MATH 1715 College Algebra & Trigonometry  
MATH 1834 Calculus I  
MATH 2834 Calculus II  
MATH 3653 Linear Algebra  
MATH 3713 College Geometry  
MATH 3834 Calculus III  
MATH 4653 Modern Algebra

**Electives in Math** (Chosen from 3000-4000 level courses) ..... **6**

*MATH 4933 may NOT count as MATH elective.*

**Computer Application/Computer Science** ..... **3**

MATH 3533 Tech and Programming in Mathematics

**Statistics** ..... **3**

MATH 3413 Statistical Methods I  
**OR** MATH 3433 Statistics I

**Professional Education Requirements** ..... **36**

**Certificate/Foundations Courses**

†EDPSY 3433 Adolescent Psychology  
EDUC 2113 Foundations of Education  
†SPCED 3132 Exceptional Children

**Foreign Language Proficiency (Required)**

**Pre-Professional Semester**

EDPSY 3653 Educational Psychology (Sec)  
LIBED 3423 Media & Technology  
MATH 4101 Mathematics Capstone Course  
MATH 4933 Teaching Secondary Math  
SECED 4813 Educational Tests & Meas (Sec)  
SECED 4823 Principles of Teaching Secondary

**Professional Semester**

EDUC 3321 Multicultural/Special Populations  
EDUC 4021 Contemp Issues in Education  
EDUC 4041 Classroom Management  
SECED 4865 Student Teaching in the Sec School  
SECED 4965 Student Teaching in the Sec School

**Electives to bring total to 120**..... **5-6**

**TOTAL HOURS**..... **120**

† SDE *Guidelines and Procedures Handbook for Certification*, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

#### REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation..... 120  
Minimum credit hours in the liberal arts & sciences..... 80  
Minimum credit hours (3000/4000 courses)  
in major completed at SWOSU ..... 8  
Minimum credit hours at SWOSU (15 of the last 30)..... 30  
Minimum Grade Point Average in Mathematics coursework..... 2.50  
Minimum Grade Point Average in all coursework..... 2.50

Students should work closely with their advisor to ensure that they take mathematics courses in the appropriate sequence. For example, taking a 1000 level mathematics course after successfully completing Calculus I is usually not recommended. Deviations from the appropriate sequence require departmental approval

## MATHEMATICS EDUCATION (Code 716) Suggested Course Sequence\*

### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshman Orient (1) 1023 Comp Info Access (3) 1113 English Comp I (3) 1513 College Algebra (3) 1613 College Trigonometry (3) Gen Educ Crses (3)	1003 General Psychology (3) 1103 American Govt & Politics (3) 1213 English Comp II (3) 1834 Calculus I (4) 2113 Found In Education (3)
<b>Total (16)</b>	<b>Total (16)</b>

### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1313 Intro Public Speaking (3) 2834 Calculus II (4) 3413 Statistical Methods** (3) Gen Educ Crses (6) English Proficiency Exam (if applicable)	3653 Linear Algebra (3) 3834 Calculus III (4) Gen Educ Crses (9)
<b>Total (16)</b>	<b>Total (16)</b>

### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
3113 Foundations in Math (3) 3533 Tech and Programming Math*** (3) 4933 Teaching Secondary Math (3) Gen Educ Crses (3) Math Elective (3)	3132 Exceptional Child# (2) 3433 Adolescent Psych# (3) 3635 Linear Algebra (3) 3713 College Geometry (3) Math Elective (3)
<b>Total (15)</b>	<b>Total (14)</b>

### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
Pre-Professional Semester 3423 Media & Tech (3) 3653 Educ Psychology (3) 4101 Math Capstone (1) 4653 Modern Algebra (3) 4813 Educ Tests & Meas (3) 4823 Princ of Tech Sec (3)	Professional Semester 3321 Multi-Cultrl/Spec Pop (1) 4021 Contemp Issues in Ed (1) 4041 Classroom Mgmt (1) 4865 Student Teach Sec (5) 4965 Student Teach Sec (5)
<b>Total (16)</b>	<b>Total (13)</b>

\* Student schedules can vary considerably due to incoming skills, ability to enroll in summer courses, transfers or changes of major, and course availabilities. The above schedule is a guideline only, and students should consult with their advisors regularly to make any needed adjustments.

\*\*MATH 3413 Statistical Methods I or MATH 3433 Statistics I

\*\*\*Any scientific programming language OR MATH 3533 Technology and Programming in Mathematics

#SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

## BACHELOR OF SCIENCE IN EDUCATION NATURAL SCIENCE EDUCATION (Code No. 727)

### GENERAL EDUCATION

Courses that are **required** are in bold type.

Courses that are *recommended* are in italics.

**TOTAL GENERAL EDUCATION HOURS** ..... **Min. 40**

**REQUIRED CORE COURSES**..... **31-35**

**Written Communication**..... **6**

**ENGL 1113 English Composition I**  
**ENGL 1213 English Composition II**

**Mathematics**..... **3**

**MATH 1513 College Algebra**  
*or a higher numbered math course*

**U. S. History** ..... **3**

*Select one course.*

**HIST 1043 U.S. History to 1877**  
**HIST 1053 U.S. History since 1877**

**American Government**..... **3**

**POLSC 1103 American Government & Politics**

**Science**..... **7-8**

*Select one course from Life Science and one course from Physical Science. One Science course must be a lab science.*

**Life Science**..... **4**

**BIOL 1054 Principles of Biology I w/Lab**

**Physical Science**..... **4**

**ASTRO 1904 Astronomy**

**OR**

**GEOL 1934 Physical Geology w/Lab**

**Humanities**..... **6**

**HUM 1103 Introduction to Humanities**

**OR**

*HIST 1033 World History*

**AND one of the following:**

**ART 1223 Art Survey**

**COMM 1263 Introduction to Theatre**

**LIT 2333 Introduction to Film**

**LIT 2413 Introduction to Literature**

**MUSIC 1013 Introduction to Music I**

**MUSIC 1103 Music and Culture**

**PHILO 1453 Introduction to Philosophy**

**Human, Cultural, & Social Diversity** ..... **3-4**

**PSYCH 1003 General Psychology**

**Computer Proficiency**..... **0-3**

Students must demonstrate computer proficiency (high school Computer Science course, SWOSU computer proficiency exam, or COMSC 1023 Computer & Info Access).

**GE electives (from at least two different categories) ..... to total 40**

**COMM 1313 Introduction to Public Speaking**

### NATURAL SCIENCE EDUCATION MAJOR

**Required Courses**..... **33**

**BIOL 1254 Principles of Biology II**  
**BIOL 3053 Cell Biology**  
**BIOL 3253 Genetics**  
**BIOL 3283 Ecology**  
**CHEM 1203 General Chemistry I**  
**CHEM 1252 General Chemistry I Lab**  
**CHEM 1303 General Chemistry II**  
**CHEM 1352 General Chemistry II Lab**  
**CHEM 2612 Principles of Laboratory Safety**  
**PHY 1044 Basic Physics I**  
**PHY 1054 Basic Physics II**

**Auxiliary Requirements**..... **3**

**MATH 1613 College Trigonometry**  
Students who take *MATH 1715 College Algebra and Trigonometry* to satisfy General Education and Major math requirements must take one additional hour of electives.

**Concentration (Select one from list below)**..... **14-15**

#### General Concentration

Select 14 hours of electives from two or more areas of Biology, Chemistry, or Physics.

#### Biology Concentration

Required course:

**BIOL 3152 Genetics and Cell Biology Lab**

*Remaining hours are to be selected from:*

*(recommended courses in italics)*

**BIOL 3304 Aquatic Ecology**

**BIOL 3604 Biology of Insects**

**BIOL 3704 Human Anatomy**

**BIOL 3814 Biology of Plants**

**BIOL 3904 Human Physiology**

**BIOL 4355 Microbiology**

**BIOL 4454 Plant Taxonomy**

**BIOL 4604 Terrestrial Ecology**

*BIOL 4853 Evolution*

#### Chemistry Concentration

*Choose at least 14 hours of chemistry electives below:*

**CHEM 2114 Organic/Biochemistry**

**CHEM 3013/3111 Organic Chemistry I**

**CHEM 4113/4021 Organic Chemistry II**

**CHEM 3124 Quantitative Analysis**

**CHEM 3244 Environmental Chemistry**

**CHEM 4124 Biochemistry**

**CHEM 4254 Industrial Chem. & Environmental Reg.**

(Students completing this specialization cannot select both CHEM 2114 and CHEM 3013/3111.)

#### Physics Concentration

*Choose at least 14 hours of physics electives below:*

**PHY 2145 General Physics I**

**PHY 2155 General Physics II**

**PHY 3311 Modern Physics Laboratory**

**PHY 3403 Modern Physics for Engineers**

(Students selecting this specialization must take MATH 1834

Calculus I and MATH 2834 Calculus II. PHY 2145 and 2155

satisfy the requirements for PHY 1044 and 1054. PHY 1044 and

1054 do not fulfill the requirements in the Physics

Concentration.)

(CONTINUED ON NEXT PAGE)

**Professional Education Requirements.....36**

**Certificate/Foundations Courses**

- \*\*EDPSY 3433 Adolescent Psychology
- EDUC 2113 Foundations of Education
- \*\*SPCED 3132 Exceptional Children

**Foreign Language Proficiency (Required)**

**Pre-Professional Semester**

- EDPSY 3653 Educational Psychology (Sec)
- LIBED 3423 Media & Technology
- SECED 4843 Teachers' Course in Science
- SECED 4813 Educ Tests & Measurements (Sec)
- SECED 4823 Principles of Teaching Secondary

**Professional Semester**

- EDUC 3321 Multicultural/Special Populations
- EDUC 4021 Contemporary Issues in Education
- EDUC 4041 Classroom Management
- SECED 4865 Student Teaching in the Sec School
- SECED 4965 Student Teaching in the Sec School

**TOTAL HOURS..... 126**

\*\* SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

**REGULATIONS PERTAINING TO GRADUATION**

Minimum credit hours for graduation.....	126
Minimum credit hours in the liberal arts & sciences .....	55
Minimum credit hours in upper-division (3000/4000 courses).....	40
Minimum credit hours (3000/4000 courses) in major completed at SWOSU .....	8
Minimum credit hours at SWOSU (15 of the last 30).....	30
Minimum Grade Point Average in all coursework.....	2.50

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## NATURAL SCIENCE EDUCATION – GENERAL (Code 727) Suggested Course Sequence

### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshmen Orientation* (1) 1054 Principles of Biology I (4) 1113 English Composition I (3) 1513 College Algebra (3) General Education (1-5)	1003 General Psychology (3) 1103 American Govt & Politics (3) 1213 English Composition II (3) 1254 Principles of Biology II (4) 1613 College Trigonometry (3)
<b>Total (12-16)</b>	<b>Total (16)</b>

### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1203 General Chemistry I (3) 1252 General Chemistry I Lab (2) 1904 Astronomy <b>OR</b> 1934 Physical Geology (4) 3053 Cell Biology (3) General Education (3) English Proficiency Exam ***	1303 General Chemistry II (3) 1352 General Chemistry II Lab (2) 1313 Introduction to Public Speaking (3) 2113 Foundations of Education (3) 3152 Genetics and Cell Biology Lab (2) 3253 Genetics (3) 3283 Ecology (3)
<b>Total (15)</b>	<b>Total (19)</b>

### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
1044 Basic Physics I (4) 2612 Principles of Laboratory Safety (2) 3132 Exceptional Children <sup>1</sup> (2) Science Elective** (8)	1054 Basic Physics II (4) 3433 Adolescent Psych <sup>1</sup> (3) General Education (3) Science Elective** (6)
<b>Total (16)</b>	<b>Total (16)</b>

### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
3423 Media and Technology (3) 3653 Educational Psychology (Sec) (3) 4813 Ed Tests and Measurements (3) 4823 Prin of Tchg Sec (3) 4843 Teachers Course in Sci + (3)	3321 Multicultural/Spec Pop (1) 4021 Contemp Issues in Education (1) 4041 Classroom Management (1) 4865 Student Teaching Sec (5) 4965 Student Teaching Sec (5)
<b>Total (15)</b>	<b>Total (13)</b>

\* First-time entering freshmen need to take 1001 Freshman Orientation

\*\* A total of at least 14 hours of science electives must be selected from two or more of the areas of Biology, Chemistry, Earth Science, or Physics. At least 9 hours of these electives must be upper division (3000-4000 level courses)

\*\*\* If applicable. See English Proficiency Program under the General Academic Information Section.

+ Offered in fall of odd years only

<sup>1</sup> SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

## NATURAL SCIENCE EDUCATION – BIOLOGY (Code 727) Suggested Course Sequence

### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshmen Orientation* (1) 1054 Principles of Biology I (4) 1113 English Composition I (3) 1513 College Algebra (3) General Education (1-5)	1003 General Psychology (3) 1103 American Govt & Politics (3) 1213 English Composition II (3) 1254 Principles of Biology II (4) 1613 College Trigonometry (3)
<b>Total (12-16)</b>	<b>Total (16)</b>

### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1203 General Chemistry I (3) 1252 General Chemistry I Lab (2) 1904 Astronomy OR 1934 Physical Geology (4) 3053 Cell Biology (3) General Education (3) English Proficiency Exam ***	1303 General Chemistry II (3) 1313 Introduction to Public Speaking (3) 1352 General Chemistry II Lab (2) 2113 Foundations of Education (3) 3152 Genetics and Cell Biology Lab (2) 3253 Genetics (3) 3283 Ecology (3)
<b>Total (15)</b>	<b>Total (19)</b>

### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
1044 Basic Physics I (4) 2612 Principles of Laboratory Safety (2) 3132 Exceptional Children <sup>1</sup> (2) Biology Elective**(8)	1054 Basic Physics II (4) 3433 Adolescent Psych <sup>1</sup> (3) General Education (3) Biology Elective**(6)
<b>Total (16)</b>	<b>Total (16)</b>

### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
3423 Media and Technology (3) 3653 Educational Psychology (Sec) (3) 4813 Ed Tests and Measurements (3) 4823 Prin of Tchg Sec (3) 4843 Teachers Course in Sci + (3)	3321 Multicultural/Spec Pop (1) 4021 Contemp Issues in Education (1) 4041 Classroom Management (1) 4865 Student Teaching Sec (5) 4965 Student Teaching Sec (5)
<b>Total (15)</b>	<b>Total (13)</b>

\* First-time entering freshmen need to take 1001 Freshman Orientation.

\*\* If applicable. See English Proficiency Program under the General Academic Information Section.

+ Offered in fall of odd years only

<sup>1</sup> SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program

## NATURAL SCIENCE EDUCATION – CHEMISTRY (Code 727)

### Suggested Course Sequence

#### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshmen Orientation* (1) 1054 Principles of Biology I (4) 1113 English Composition I (3) 1203 General Chemistry I (3) 1252 General Chemistry I Lab (2) 1513 College Algebra (3)	1213 English Composition II (3) 1254 Principles of Biology II (4) 1303 General Chemistry II (3) 1352 General Chemistry II Lab (2) 1613 College Trigonometry (3)
<b>Total (16)</b>	<b>Total (15)</b>

#### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1904 Astronomy OR 1934 Physical Geology (4) 3053 Cell Biology (3) General Education (3) Chemistry Elective (6)** English Proficiency Exam ***	1003 General Psychology (3) 1313 Introduction to Public Speaking (3) 3253 Genetics (3) 3283 Ecology (3) Chemistry Elective (4)**
<b>Total (16)</b>	<b>Total (16)</b>

#### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
1044 Basic Physics I (4) 2113 Foundations of Education (3) 2612 Principles of Laboratory Safety (2) 3132 Exceptional Children <sup>1</sup> (2) Chemistry Elective**(6)	1054 Basic Physics II (4) 1103 American Govt & Politics (3) 3433 Adolescent Psych <sup>1</sup> (3) General Education (3) Chemistry Elective**(2)
<b>Total (17)</b>	<b>Total (15)</b>

#### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
3423 Media and Technology (3) 3653 Educational Psychology (Sec) (3) 4813 Ed Tests and Measurements (3) 4823 Prin of Tchg Sec (3) 4843 Teachers Course in Sci + (3) General Education (3)	3321 Multicultural/Spec Pop (1) 4021 Contemp Issues in Education (1) 4041 Classroom Management (1) 4865 Student Teaching Sec (5) 4965 Student Teaching Sec (5)
<b>Total (18)</b>	<b>Total (13)</b>

\* First-time entering freshmen need to take 1001 Freshman Orientation

\*\* A total of at least 14 hours of chemistry electives must be selected from: CHEM 2114 Organic/Biochemistry, CHEM 3013/3111 Organic Chemistry I, CHEM 4113/4021 Organic Chemistry II, CHEM 3124 Quantitative Analysis, CHEM 3244 Environmental Chemistry, CHEM 4124 Biochemistry, and CHEM 4254 Industrial Chemistry and Environmental Regulations. Students completing this specialization cannot select both CHEM 2114 and CHEM 3013/3111.

\*\*\* If applicable. See English Proficiency Program under the General Academic Information Section

+ Offered in fall of odd years only

<sup>1</sup> SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.

## NATURAL SCIENCE EDUCATION – PHYSICS (Code 727)

### Suggested Course Sequence

#### FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
1001 Freshmen Orientation* (1) 1113 English Composition I (3) 1203 General Chemistry I (3) 1252 General Chemistry I Lab (2) 1513 College Algebra (3) 1613 College Trigonometry (3)	1213 English Composition II (3) 1303 General Chemistry II (3) 1352 General Chemistry II Lab (2) 1834 Calculus I (4) 2145 General Physics I (5)
<b>Total (15)</b>	<b>Total (17)</b>

#### SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
1054 Principles of Biology I (4) 1313 Introduction to Public Speaking (3) 2155 General Physics II (5) 2834 Calculus II (4) English Proficiency Exam ***	1103 American Govt & Politics (3) 1254 Principles of Biology II (4) 2612 Principles of Laboratory Safety (2) 3311 Mod Phys Eng Lab (1) 3403 Mod Phys Eng (3) General Education (3)
<b>Total (16)</b>	<b>Total (16)</b>

#### THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
1003 General Psychology (3) 1904 Astronomy OR 1934 Physical Geology (4) 2113 Foundations of Education (3) 3052 Cell Biology (2) General Education (3) Physics Elective** (3-4)	3132 Exceptional Children <sup>1</sup> (2) 3253 Genetics (3) 3283 Ecology (3) 3433 Adolescent Psych <sup>1</sup> (3) General Education (3) Physics Elective** (0-3)
<b>Total (18-19)</b>	<b>Total (14-17)</b>

#### FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
3423 Media and Technology (3) 3653 Educational Psychology (Sec) (3) 4813 Ed Tests and Measurements (3) 4823 Prin of Tchg Sec (3) 4843 Teachers Course in Sci + (3)	3321 Multicultural/Spec Pop (1) 4021 Contemp Issues in Education (1) 4041 Classroom Management (1) 4865 Student Teaching Sec (5) 4965 Student Teaching Sec (5)
<b>Total (15)</b>	<b>Total (13)</b>

\* First-time entering freshmen need to take 1001 Freshman Orientation.

\*\* Credit hours for students taking 1715 College Algebra and Trigonometry must total 126 hours.

\*\*\* If applicable. See English Proficiency Program under the General Academic Information Section.

+ Offered in fall of odd years only.

<sup>1</sup> SDE Guidelines and Procedures Handbook for Certification, page 3, and OK Regents for Higher Education Rule 11-2-24 state that courses classified as professional teacher education must be acquired from a four-year accredited program.