

**BACHELOR OF SCIENCE IN EDUCATION
NATURAL SCIENCE EDUCATION**

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

REQUIRED HOURS48-49

Communication 8

- ENGL 1113 English Composition I**
- ENGL 1213 English Composition II**
- COMM 1312 Basic Speech**

Mathematics 3

- MATH 1143 Math Concepts
- MATH 1513 College Algebra
- OR a higher numbered math course**

Computer Application/Technology 2

- COMSC 1022 Computers and Information Access
- TECH 1122 Technology & Society

Economics 3

- ECONO 1113 Contemporary Economics**

Health and Physical Education 3

- HPE R 1133 Wellness Concepts and Exercise Applications (includes 1 hour lab)**

Natural Sciences 8

- BIOL 1004 Biological Concepts**
- SCI 1514 Concepts of Physical Science
- SCI 1614 Science & the Environment
- ASTRO 1904 Astronomy**
- GEOL 1934 Physical Geology

Fine Arts and Humanities 6

- ART 1222 Art Survey
- LIT 2412 Introduction to Literature**
- MUSIC 1012 Introduction to Music I
- PHILO 1452 Introduction to Philosophy

U.S. History and Government 6

- HIST 1063 U.S. History**
- POLSC 1103 American Government and Politics**

International and Cultural Studies 6-7

- HIST 1033 World History**
- GEOG 1103 World Cultural Geography**
- POLSC 1153 World Relations and Politics
- Foreign Language (4 hr/ includes 3 hr class & 2 hr lab)

Behavioral/Social Science 3

- PSYCH 1003 General Psychology**
- SOCIO 1003 Introduction to Sociology

Required Courses..... 34

- BIOL 2404 Introductory Botany
- BIOL 2204 Introductory Zoology
- CHEM 1203 General Chemistry I
- CHEM 1252 General Chemistry I Lab
- CHEM 1303 General Chemistry II
- CHEM 1352 General Chemistry II Lab
- PHY 1044 Basic Physics I
- PHY 1054 Basic Physics II
- GEOL 1934 Physical Geology
- BIOL 2714 Human Anatomy and Physiology

Auxiliary Requirements.....5-6

- MATH 1715 College Algebra and Trigonometry
- OR MATH 1513 College Algebra AND MATH 1613 College Trigonometry**

Electives..... 14

General Concentration

The general degree in Natural Science is obtained by selecting 14 hours of electives from two or more areas of Biology, Chemistry, Earth Science, or Physics.

Biology Concentration

- Required: BIOL 2022 Biological Orientation
- BIOL 3254 Genetics
- BIOL 4604 General Ecology
- OR BIOL 3504 Natural History**

Remaining hours are to be selected from: BIOL 3604 General Entomology, BIOL 4653 Plant Taxonomy, or ALHLT 4355 Microbiology.

Chemistry Concentration

An area of specialization in Chemistry can be obtained by completing at least 14 hours of chemistry electives to 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.

Physics Concentration

An area of specialization in Physics can be obtained by selecting 14 hours from the following: PHY 2145 General Physics I, PHY 2155 General Physics II, PHY 3403 Modern Physics for Engineers, and PHY 3311 Modern Physics Laboratory. Students selecting this specialization must take MATH 1834 Calculus I and MATH 2834 Calculus II.

Professional Education Requirements..... 36

Certificate/Foundations Courses

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

Foreign Language Proficiency (Required)

Pre-Professional Semester

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

Professional Semester

EDUC	3321	Multicultural/Special Populations
EDUC	4021	Critical 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 for degree139

REGULATIONS PERTAINING TO GRADUATION

Minimum credit hours for graduation.....	139
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 (including last 8).....	30
Minimum Grade Point Average in all coursework.....	2.50

NATURAL SCIENCE EDUCATION (CHEMISTRY) - (CODE 727)
Suggested Course Sequence

FIRST YEAR		SECOND YEAR	
FIRST SEMESTER	SECOND SEMESTER	FIRST SEMESTER	SECOND SEMESTER
1001 Freshman Orient*** 1	1213 English Comp II3	1063 U.S. History3	1003 General Psychology3
1004 Biological Concepts..... 4	1303 Gen Chemistry II.....3	1904 Astronomy4	1934 Physical Geology4
1113 English Comp I..... 3	1312 Basic Speech.....2	2204 Introductory Zoology ...4	2412 Intro to Literature.....2
1133 Wellness Concepts3	1332 Gen Chem II Lab2	Chemistry elective*4	2714 Human Anat/Phys4
1203 General Chem I..... 3	1613 College Trig.....3	Gen Educ Crse.....2	Chemistry elective*4
1252 General Chem I Lab.....2	2404 Intro Botany4	English Proficiency Exam**	Cmptr/Tech GE crse.....2
1513 College Algebra..... 3	Fine Arts GE course2		
Total:..... 19	Total:19	Total:.....17	Total:19

THIRD YEAR		FOURTH YEAR	
FIRST SEMESTER	SECOND SEMESTER	FIRST SEMESTER	SECOND SEMESTER
1033 World History 3	1054 Basic Physics II4	3423 Media and Tech3	3321 Multicultural/Spec Pop ..1
1044 Basic Physics I..... 4	1103 American Govt3	3653 Ed Psych (Sec)3	4021 Critical Iss in Educ1
2113 Foundations of Educ....3	1103 Wrld Cultur Geog.....3	4813 Educ Tests & Msrmnts..3	4041 Classroom Mngt1
3132 Exceptional Children...2	1113 Cont Economics.....3	4823 Prin of Tchg Secondary 3	4865 Student Teaching.....5
3433 Adolescent Psychology3	Chemistry elective*4	4843 +Teachers' Crse in Sci....3	4965 Student Teaching.....5
Chemistry elective* 4	Fine Arts GE course2		
Total:..... 19	Total:19	Total:.....15	Total:13

* 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

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

+ Offered in Fall of odd years only