

Program: **Science Education**
 Major: **Science Education - Physical Science**
 Degree: **Bachelor of Science in Education (B.S.Ed.)**

Dept: **Engineering and Physics**
 College: **Mathematics and Science**
 Major Code: **6043**

University Core (Total Listed 42-44)

Specific courses within the University Core are listed on pages 96-97.

• Courses from the major may apply to the areas marked in the University Core.

• **Written and Oral Communication**..... 9

Quantitative Reasoning/Scientific Method 10-11

- Math..... 3
- Life Science..... 4
- Physical Science..... 3-4

Critical Inquiry and Aesthetic Analysis..... 6

- Aesthetic Analysis..... 3
- Critical Inquiry..... 3

American Historical and Political Analysis 6

- American National Government 3
- American History 3

Cultural and Language Analysis 3-4

- Second Language..... 4
- OR
- Cultural Analysis..... 3

Social and Behavioral Analysis..... 3

Life Skills 5

- Required Health Course..... 2
- Elective Life Skills..... 3

**Minimum
Required Hours**

Support Courses
Support Courses.....9-15

- MCOM 1113 Fundamentals of Speech
- ENG 1113 English Composition
- ENG 1213 English Composition and Research

Students majoring in the Physical Science Education program are encouraged to complete the following courses in high school.

- Two years of high school Algebra and one year of Trigonometry **OR**
- MATH 1513 College Algebra **AND**
- MATH 1593 Plane Trigonometry

Major Requirements

Science Education - Physical Science 65

Science Education Core 37

Biology 9

Required courses:

- BIO 1204 Biology for Majors: Principles
- BIO 1225 Biology for Majors: Diversity

Chemistry..... 10

Required courses:

- CHEM 1103 General Chemistry I **AND**
- CHEM 1112 General Chemistry I Recitation/Lab
- CHEM 1223 General Chemistry II **AND**
- CHEM 1232 General Chemistry II Recitation/Lab

* Physics 8

Required courses:

- PHY 1114 General Physics I and Lab **OR**
- PHY 2014 Physics for Science and Engineering I and Lab
- PHY 1214 General Physics II and Lab **OR**
- PHY 2114 Physics for Science and Engineering II and Lab

Earth Science 4

Required course:

- PHY 3014 Earth Science

Mathematics..... 3

Required course:

- STAT 2103 Introduction to Statistics for Sciences

**Minimum
Required Hours**

Computer Science 3

Required course:

- CMSC 1513 Beginning Programming

Science Education - Physical Science 28

Required courses..... 20

- CHEM 2104 Quantitative Analysis and Lab
- CHEM 3303 Organic Chemistry I
- CHEM 3312 Organic Chemistry I Lab
- CHEM 3403 Biochemistry I
- CHEM 3442 Experimental Biochemistry
- PHY 1304 Descriptive Astronomy
- ENGR 1112 Introduction to Engineering and Lab

Elective Science 8

Select from the following:

- CHEM 3323 Organic Chemistry II
- CHEM 3332 Organic Chemistry II Laboratory
- CHEM 3203 Introductory Physical Chemistry
- *ENGR 2303 Electrical Science
- *ENGR 2311 Electrical Science Lab
- *ENGR 3403 Analog Electronics
- *ENGR 3421 Analog Electronics Laboratory
- PHY 4910 Seminar in Physics (1 - 3 hours)

* Students choosing to take PHY 1114 and PHY 1214 Gen Physics I & II can only take CHEM courses within the Elective Science due to prerequisites. To take Engineering courses, students must take PHY 2014 Physics for Science and Engineering I and Lab and PHY 2114 Physics for Science and Engineering II and Lab. PHY 2014 and 2114 have MATH 2313, 2323 and 2333 as prerequisites.

Professional Education 31

- PTE 1010 Introduction to Teacher Education
- PTE 3023 Foundations of American Education/Clinical Exp
- PTE 3153 Adolescent Psychology
- SPED 4123 Teaching Individuals with Disabilities
- ^BIO 4812 Teaching and Learning in Science Classrooms
- ^BIO 4853 General Methods of Teaching Science and Lab
- ^PTE 4172 Educational Assessment

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- ^PTE 4533 Educational Psych/Clinical Experience
- ^#PTE 4811 Contemporary Issues
- ^#PTE 4838 Internship/Student Teaching Secondary
- ^#PTE 4853 Classroom Management & Instruction

^ Admission to Teacher Education required
 #To be taken the same semester

Minimum Hours required 128*

*Total hours required for this major may exceed the minimum 124 credit hour institutional requirement and will vary according to course selection. It is recommended students complete high school algebra II, trigonometry, and two years of a second language in high school.

Minimum Graduation Requirements

1. Overall GPA in all college course work 2.50
2. Average in course work at UCO 2.00
3. Courses in English Composition, Fundamentals of Speech, Professional Education, and area of specialization (major)..... "C"
4. Proficiency in foreign language Novice 4 level

For other regulations pertaining to graduation, see pages 68-69 of the 2018-2019 catalog.