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)

For a full list of courses see University Core.

• 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

Minimum Required Hours

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 1453 Applied Algebra 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

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

Mathematics ..................................................................3
Required course:
STAT 2103 Introduction to Statistics for Sciences

Computer Science ..........................................................3
Required course:
CMSC 1513 Beginning Programming

Science Education - Physical Science .........................28

Required courses:
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

- CONTINUED ON NEXT PAGE -
Program: Science Education - continued  
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

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<tr>
<th>Course</th>
<th>Code</th>
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<tbody>
<tr>
<td>SPED</td>
<td>4123</td>
<td>Teaching Individuals with Disabilities</td>
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<tr>
<td>^BIO</td>
<td>4812</td>
<td>Teaching and Learning in Science Classrooms</td>
</tr>
<tr>
<td>^BIO</td>
<td>4853</td>
<td>General Methods of Teaching Science and Lab</td>
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<tr>
<td>^PTE</td>
<td>4172</td>
<td>Educational Assessment</td>
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<tr>
<td>^PTE</td>
<td>4533</td>
<td>Contemporary Learning Sciences</td>
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<tr>
<td>^PTE</td>
<td>4811</td>
<td>Contemporary Issues</td>
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<tr>
<td>^PTE</td>
<td>4838</td>
<td>Internship/Student Teaching Secondary</td>
</tr>
<tr>
<td>^PTE</td>
<td>4853</td>
<td>Classroom Management &amp; Instruction</td>
</tr>
</tbody>
</table>

^ 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 Academic Degree Requirements.