**University Core** (Total Listed 42-44)

- **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

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**Support Courses**

<table>
<thead>
<tr>
<th>Support Courses</th>
<th>Minimum Required Hours</th>
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<tbody>
<tr>
<td>PHIL 1123</td>
<td>9-18</td>
</tr>
<tr>
<td>ECON 1103</td>
<td></td>
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<tr>
<td>FMKT 2323</td>
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<tr>
<td>*MATH 1533</td>
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<tr>
<td>MATH 1513</td>
<td></td>
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<tr>
<td>MATH 1593</td>
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</table>

*Placement Scores are required for either MATH 1533 or MATH 1593 to take MATH 2313.

- **A grade of ‘C’ or better is required for either MATH 1513 or MATH 1533 and MATH 1593**

- **Students majoring in the Electrical Engineering program are encouraged to complete the following course in high school.**
  - **One year of high school physics** OR
  - **PHY 1003 Introduction to Physics**

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**Electrical Engineering** ................................................................. 92-97

- **Mathematics** .......................................................................................... 14
  - **Required courses:**
    - MATH 2313
    - MATH 2323
    - MATH 2333
    - MATH 2343

- **Physics** .................................................................................................. 14
  - **Required courses:**
    - PHY 2014 Physics for Science and Engineering I and Lab
    - PHY 2114 Physics for Science and Engineering II and Lab
    - PHY 3103 Modern Physics
    - PHY 3883 Mathematical Physics I

- **Engineering** ............................................................................................ 55
  - **Required courses:**
    - ENGR 1112 Introduction to Engineering and Laboratory
    - ENGR 1213 Engineering Computing and Laboratory
    - ENGR 2033 Statics
    - ENGR 2303 Electrical Science
    - ENGR 2311 Electrical Science Laboratory
    - ENGR 3183 Electromagnetic Fields I
    - ENGR 3223 Digital Logic Design and Laboratory
    - ENGR 3303 Engineering Probability & Statistics
    - ENGR 3323 Signals and Systems

- **Guided Engineering Electives** ............................................................... 3
  - **Select from the following:**
    - ENGR 4183 Electromagnetic Fields II
    - ENGR 4263 Engineering Optics
    - ENGR 4303 Control Systems
    - ENGR 4613 Photonics
    - ENGR 4633 Solid State Devices

  # Admission into Engineering and Physics Upper Division is required.

- **CONTINUED ON NEXT PAGE**
Minimum Hours required .......................... 125*

*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, physics and two years of a second language in high school.

Minimum Grade Requirements
1. Average in (a) all college course work, and (b) course work at UCO ................................................................. 2.00
2. A minimum grade of “C” must be earned in all courses in the major to count toward meeting degree requirements.

For other regulations pertaining to graduation, see Academic Degree Requirements.

Admission into Engineering and Physics Upper Division

Students seeking the B.S. in Biomedical Engineering, Electrical Engineering, Engineering Physics – Physics and Mechanical Engineering are required to make formal application to the Chairperson of the Department of Engineering and Physics for admission into the upper division of each of these majors. Applications must be submitted to the Department of Engineering and Physics on or before the last Monday of January for Fall admission and the last Monday of August for Spring admission.

Upper division admission is open to students meeting Engineering and Physics upper division admission requirements. To be admitted into upper division, the student must have:

- A minimum retention grade point average (GPA) of 2.00 in all course work completed by the time the student is formally admitted into upper division.
- Completed 60 semester credit hours by the time the student is formally admitted into upper division.
- Completed the following courses or their equivalent with a minimum grade of “C” by the time the student is formally admitted into upper division:

R-CONTINUED FROM PREVIOUS PAGE-

MATH 2313 Calculus 1
MATH 2323 Calculus 2
MATH 2333 Calculus 3
MATH 2343 Calculus 4
MATH 3103 Differential Equations (Recommended)

PHY 2114 Physics for Science & Engineering I & Lab
ENGR 1123 Introduction to Engineering & Lab
ENGR 1213 Engineering Computing & Lab
ENGR 2033 Statics
ENGR 2303 Electrical Science
ENGR 2311 Electrical Science Lab
ENGR 3303 Engineering Probability and Statistics (Recommended)
CHEM 1112 General Chemistry I Recitation/Lab AND (for Biomedical Engineering)
CHEM 1103 General Chemistry I OR (for Biomedical Engineering)
CHEM 1315 Chemistry for Engineering and Lab (for Electrical Engineering, Engineering Physics-Physics, Mechanical Engineering)

Accelerated BS/MS

The Department of Engineering and Physics offers a M.S. Engineering Physics - Electrical Engineering major. Students in the B.S. Electrical Engineering program are eligible to pursue, with approval, the M.S. Engineering Physics - Electrical Engineering degree beginning in their senior year. Approved B.S. Electrical Engineering students may take up to 10 credit hours of 5000-level ENGR courses during their senior year of the B.S. program. These courses will count toward both the B.S. and M.S. degrees. A formal application to the M.S. Engineering Physics program and an approval from the Department of Engineering and Physics are required. Requirements are located in the UCO Graduate Catalog under Engineering Physics - Electrical Engineering.

Up to 10 credit hours of the following courses can be used to satisfy both the B.S. Electrical Engineering and the M.S. Engineering Physics - Electrical Engineering programs:

ENGR 5323 Digital and Analog Communication
ENGR 5333 Digital Signal Processing
ENGR 5311 Digital Signal Processing Laboratory
ENGR 5803 Mechatronics & Laboratory
ENGR 5083 Electromagnetic Fields II
ENGR 5613 Photonics
ENGR 5633 Solid State Devices

Accelerated BS/PSM

UCO’s PSM (Professional Science Master’s) in Computational Science has partnered with the B.S. in Electrical Engineering so that approved students may take up to 10 credit hours of 5000-level ENGR courses during their senior year of the B.S. program. These courses will count toward both the B.S. and P.S.M. degrees. A formal application to the P.S.M. Computational Science program and an approval from the Department of Engineering and Physics are required. Requirements are located in the UCO Graduate Catalog under Computational Science - Computational Engineering, P.S.M.

Up to 10 credit hours of the following courses can be used to satisfy both the B.S. Electrical Engineering and the P.S.M. Computational Science - Computational Engineering:

ENGR 5023 Heat Transfer
ENGR 5103 Finite Element Analysis
ENGR 5333 Digital Signal Processing
ENGR 5311 Digital Signal Processing Laboratory
ENGR 5803 Mechatronics & Laboratory
BME 5223 Biomedical Imaging