Program: Electrical Engineering
Major: Electrical Engineering
Degree: Bachelor of Science (B.S.)

Dept: Engineering and Physics
College: Mathematics and Sciences
Major Code: 6260

University Core (Total Listed 42-44)

Specific courses within the University Core are listed on pages 95-96.
* 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

Support Courses .................................................................9-18

Support Courses
PHIL 1123 Contemporary Moral Problems
ECON 1103 Introduction to Economics
FMKT 2323 Global Protocol and Diversity
(or Foreign Language)

*MATH 1533 Precalculus-Algebra OR
MATH 1513 College Algebra OR Placement Score AND
*MATH 1593 Plane Trigonometry OR Placement Score

*A grade of ‘C’ or better is required for either MATH 1513 or MATH 1533 and MATH 1593 to take MATH 2313.

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

Major Requirements

Electrical Engineering .........................................................92

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

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

American Historical and Political Analysis ..............................6
American National Government ............................................ 3
American History .......................................................... 3

Electrical Engineering

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

*Students in the Accelerated BS/MS program in Engineering Physics must enroll in the graduate level versions of this course, and must choose the 5000 level of either Photonics, Electromagnetic Fields II or Solid State Devices as one of the engineering electives. Students need only three 5000-level courses as part of the accelerated program.

# Admission into Engineering and Physics Upper Division is required.

- CONTINUED ON NEXT PAGE -
Program: Electrical Engineering - continued
Major: Electrical Engineering
Degree: Bachelor of Science (B.S.)

- CONTINUED FROM PREVIOUS 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

Admission into Engineering and Physics Upper Division
Students seeking the B.S. in Biomedical Engineering, Electrical Engi-
neering, Engineering Physics – Physics and Mechanical Engineering are
required to make formal application to the Chairperson of the Depart-
ment 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 mini-
imum grade of “C” by the time the student is formally admitted into
upper division:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>MATH 2313</td>
<td>Calculus 1</td>
</tr>
<tr>
<td>MATH 2323</td>
<td>Calculus 2</td>
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<tr>
<td>MATH 2333</td>
<td>Calculus 3</td>
</tr>
<tr>
<td>MATH 2343</td>
<td>Calculus 4</td>
</tr>
<tr>
<td>MATH 3103</td>
<td>Differential Equations (Recommended)</td>
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<tr>
<td>PHY 2014</td>
<td>Physics for Science &amp; Engineering I &amp; Lab</td>
</tr>
<tr>
<td>PHY 2114</td>
<td>Physics for Science &amp; Engineering II &amp; Lab</td>
</tr>
<tr>
<td>ENGR 1112</td>
<td>Introduction to Engineering &amp; Lab</td>
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<td>Electrical Science Lab</td>
</tr>
<tr>
<td>ENGR 3303</td>
<td>Engineering Probability and Statistics</td>
</tr>
<tr>
<td>CHEM 1112</td>
<td>General Chemistry I Recitation/Lab AND</td>
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<tr>
<td></td>
<td>(for Biomedical Engineering)</td>
</tr>
<tr>
<td>CHEM 1103</td>
<td>General Chemistry I OR (for Biomedical Engineering)</td>
</tr>
</tbody>
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