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)

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 ................................................................. 3-11
  - Life Science .................................................. 4
  - Physical Science .......................................... 3-4

Critical Inquiry and Aesthetic Analysis ..................................... 6
  - Aesthetic Analysis ...................................... 3
  - Critical Inquiry ........................................ 3

- CONTINUED ON NEXT PAGE -

Support Courses

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

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 ..................................................92-97

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
    #ENGR 3413  Materials Science
    #ENGR 3613  Microprocessors and Laboratory
    #ENGR 3703  Computational Methods in Engineering
    #ENGR 3803  Electrical Power Systems
    #ENGR 4233  Digital Signal Processing
    #ENGR 4351  Digital Signal Processing Laboratory
    #ENGR 4803  Mechatronics & Laboratory
    #ENGR 4872  EE Senior Engineering Design I
    #ENGR 4892  Senior Engineering Design II

ENGR 3331  Signals and Systems Laboratory
ENGR 3403  Analog Electronics
ENGR 3421  Analog Electronics Laboratory
ENGR 3413  Materials Science
ENGR 3613  Microprocessors and Laboratory
ENGR 3703  Computational Methods in Engineering
ENGR 3803  Electrical Power Systems
#ENGR 4233  Digital Signal Processing
#ENGR 4351  Digital Signal Processing Laboratory
#ENGR 4803  Mechatronics & Laboratory
#ENGR 4872  EE Senior Engineering Design I
#ENGR 4892  Senior Engineering Design II

Chemistry ......................................................................... 5-10

  Required courses:
    CHEM 1315  Chemistry for Engineering and Lab OR
    CHEM 1103  General Chemistry I AND
    CHEM 1112  General Chemistry I Recitation/Lab AND
    CHEM 1223  General Chemistry II AND
    CHEM 1232  General Chemistry II Recitation/Lab

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

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

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*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.

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 2033</td>
<td>Statics</td>
</tr>
<tr>
<td>ENGR 2303</td>
<td>Electrical Science</td>
</tr>
<tr>
<td>ENGR 2311</td>
<td>Electrical Science Lab</td>
</tr>
<tr>
<td>ENGR 3303</td>
<td>Engineering Probability and Statistics (Recommended)</td>
</tr>
<tr>
<td>CHEM 1112</td>
<td>General Chemistry I Recitation/Lab AND (for Biomedical Engineering)</td>
</tr>
<tr>
<td>CHEM 1103</td>
<td>General Chemistry I OR (for Biomedical Engineering)</td>
</tr>
<tr>
<td>CHEM 1315</td>
<td>Chemistry for Engineering and Lab (for Electrical Engineering, Engineering Physics-Physics, Mechanical Engineering)</td>
</tr>
</tbody>
</table>

Formal approval by the department Faculty Advisor and Department Chair is required for admission. Preference is given to University of Central Oklahoma students. The student may enroll in no more than nine (9) hours of 3000 and 4000 level courses in the major prior to admission into upper division unless they secure formal approval from the Department of Engineering and Physics.