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

University of Central Oklahoma Undergraduate Catalog 2021-2022

For a full list of courses see University Core.

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

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

• Critical Inquiry .............................................................................. 3
• Social and Behavioral Analysis ..................................................... 3

Life Skills ......................................................................................... 5
Required Health Course .................................................................. 2
Elective Life Skills ........................................................................... 3

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

Support Courses............................................................................ 9-18
PHIL  1123  Contemporary Moral Problems
ECON  1103  Introduction to Economics
FMKT  2323  Global Protocol and Diversity
(or Second 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 Computer 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

Computer Engineering ......................................................... 93

Physics.............................................................................................. 8
Required courses:
PHY  2014  Physics for Science and Engineering I and Lab
PHY  2114  Physics for Science and Engineering II and Lab

Engineering.................................................................................... 34
Required courses:
ENGR  1112  Introduction to Engineering and Laboratory
ENGR  1213  Engineering Computing and Laboratory
ENGR  2303  Electrical Science
ENGR  2311  Electrical Science Laboratory
ENGR  3223  Digital Logic Design and Laboratory
ENGR  3303  Engineering Probability & Statistics
#ENGR  3323  Signals and Systems
ENGR  3331  Signals and Systems Laboratory
ENGR  3403  Analog Electronics
ENGR  3421  Analog Electronics Laboratory
ENGR  3613  Microprocessors and Laboratory
#ENGR  4333  Digital Signal Processing

Choose one Concentration ............................................................. 9

Control Systems Concentration (Choose 9 hours from the following)
CMSC  4193  Introduction to Robotics
CMSC  4303  Mobile Application Programming
#ENGR  4803  Mechatronics & Lab
#ENGR  4303  Control Systems
#ENGR  4403  Advanced Control Systems Design & Lab

Cybersecurity Engineering Concentration (Take these 9 hours)
CMSC  4323  Computer and Network Security
#ENGR  4323  Digital and Analog Communications
#ENGR  4253  Cybersecurity for Internet of Things Devices & Lab

Internet of Things Concentration (Take these 6 hours)
CMSC  4313  Internet of Things
#ENGR  4243  Internet of Things Systems & Lab

(Choose 3 additional hours from the following)
CMSC  4303  Mobile Application Programming
Program: Computer Engineering - continued
Major: Computer Engineering
Degree: Bachelor of Science (B.S.)

| Dept: Computer Science and Engineering and Physics |
| College: Mathematics and Science |
| Major Code: 6280 |

<table>
<thead>
<tr>
<th>Minimum Required Hours</th>
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<tbody>
<tr>
<td>CMSC 4373 Cloud Web Apps Development</td>
</tr>
<tr>
<td>#ENGR 4803 Mechatronics &amp; Lab</td>
</tr>
</tbody>
</table>

# Admission to Engineering and Physics Upper Division is required to enroll in these courses.

Electives to bring total to................................. 126*

* 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 Computer Engineering are required to make formal application to the Chairperson of the Department of Engineering and Physics for admission into the upper division of this major. 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.

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:
    - CMSC 1613 Programming I
    - CMSC 1621 Programming I Lab
    - CMSC 2613 Programming II
    - CMSC 2621 Programming II Lab
    - CMSC 2833 Computer Organization and Architecture I
    - MATH 2313 Calculus I
    - MATH 2323 Calculus II
    - MATH 2333 Calculus III
    - MATH 2343 Calculus IV
    - PHY 2014 Physics for Science & Engineering I & Lab
    - PHY 2114 Physics for Science & Engineering II & Lab
    - ENGR 1112 Introduction to Engineering & Lab
    - ENGR 1213 Engineering Computing & Lab
    - ENGR 2303 Electrical Science
    - ENGR 2311 Electrical Science Lab

Formal approval by the department Faculty Advisor and Department Chair is required for admission. 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.