

## Transfer Agreement

Oklahoma City Community College: A.S. in Engineering  
and

University of Central Oklahoma: B. S. in Biomedical Engineering (Instrumentation concentration B)  
Major Code: 6220

### Oklahoma City Community College Courses

### UCO requirement

ENGL 1113 English Composition I  
ENGL 1213 English Composition II  
COM 2213 Introduction to Public Speaking  
HIST 1483 U.S. History to the Civil War **or**  
HIST 1493 U.S. History since the Civil War  
POLSC 1113 American Federal Government  
HUM 2213 Humanity-Classical & Medieval **or**  
HUM 2223 Humanities-Modern  
ECON 1013 Introduction to Economics  
ENGR 1113 Introduction to Engineering

ENG 1113 English Composition  
ENG 1213 English Composition and Research  
MCOM 1113 Fundamental of Speech  
HIST 1483 History of U.S. to 1877 **or**  
HIST 1493 History of U.S. since 1877  
POL 1113 American National Government  
HUM 2113 General Humanities Anc-Med **or**  
HUM 2223 General Humanities Ren-Modern  
ECON 1103 Introduction to Economics  
Elective

BIO 1214 Biology I (Majors)  
CHEM 1115 General College Chemistry I

BIO 1204 Biology I for Majors  
CHEM 1103 General Chemistry I **and**  
CHEM 1112 General Chemistry I - Rec/Lab

MATH 2104 Calculus and Analytic Geometry I  
MATH 2214 Calculus and Analytic Geometry II  
MATH 2314 Calculus and Analytic Geometry III

MATH 2313, 2323, 2333, 2343 Calculus 1 to 4

**The OCCC A.S. degree completes the UCO Undergraduate Core requirements.**

PHYS 2014 Engineering Physics I  
PHYS 2114 Engineering Physics II

PHY 2014 Physics for Science and Engineering I  
PHY 2114 Physics for Science and Engineering II lab

ENGR 2133 Rigid Body Mechanics **or**  
ENGR 2243 Statics  
CS 2363 C++ (FA Support)  
ENGR 2613 Electrical Science (FA ENG)  
**Total 62-64 hours**

ENGR 2033 Statics

\*ENGR 1213 Engineering Computing and Lab  
ENGR 2303 Electrical Science

**To include additional course work required for the A.S. as presented in the OCCC Catalog.**

**\*This course is a substitution for this program only.**

**To be taken at the University of Central Oklahoma.....64**

**Support Courses.....6**

FMKT 2323 Global Protocol and Diversity  
(or Foreign Language)

PHIL 1123 Contemporary Moral Problems (See advisor for substitution.)

Students majoring in Biomedical Engineering are encouraged to complete the following courses in high school.

One year of High School Algebra II and Trigonometry **OR**

MATH 1513 College Algebra **AND**

MATH 1593 Plane Trigonometry

One year High School Physics **OR**

PHY 1003 Introduction to Physics

	Major Requirements
Biomedical Engineering.....	58
Biology .....	7
Required courses:	
BIO 2203 Cell Biology	
BIO 2604 Human Physiology and Laboratory	
Engineering.....	39
Required courses:	
ENGR 1112 Introduction to Engineering and Laboratory	
BME 1311 Introduction to Biomedical Engineering	
ENGR 2311 Electrical Science Laboratory	
#BME 3043 Biomaterials	
BME 3113 Principles of Biomedical Engineering	
ENGR 3223 Digital Logic Design and Laboratory	
ENGR 3303 Engineering Probability and Statistics	
#ENGR 3323 Signals and Systems	
ENGR 3331 Signals and Systems Laboratory	
ENGR 3403 Analog Electronics	
ENGR 3421 Analog Electronics Laboratory	
#BME 4132 Biomedical Engineering Laboratory	
#BME 4223 Biomedical Imaging	
#BME 4233 Biomedical Instrumentation	
#BME 4343 Biomechanics	
#ENGR 4882 Senior Engineering Design I	
#ENGR 4892 Senior Engineering Design II	
Mathematics.....	3
Required courses:	
MATH 3103 Differential Equations	
Biomedical Engineering Elective.....	6
Any 3000/4000 level BME, PHY or ENGR course with the following exceptions: PHY 3014, 3044, 3054 or 3503.	
Complete following .....	3
Concentration B: (courses in preparation for Instrumentation)	
PHY 3883 Mathematical Physics I	

The number of credits needed to meet degree requirements exceeds 124 hours and will vary according to course selection.

The following courses are strongly recommended electives:

BME 4243 Modeling and Analysis of Biomedical Systems

#ENGR 3443 Fluid Mechanics

CHEM 3403 Biochemistry I

#ENGR 3183 Electromagnetic Fields I (for Concentration B)

# Admission into Engineering and Physics Upper Division is required.

#### 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.

**Program-to-Program Transfer policies are available in the Introduction for Program-to-Program Agreements on the UCO website at the top of the list of agreements. Links to the agreements can be found on the Academic Affairs or Transfer Student Support web pages.**

**Admission into Engineering and Physics Upper Division**

Students seeking the B.S. in Biomedical Engineering, Engineering Physics – Electrical Engineering, Engineering Physics – Mechanical Engineering, and Engineering Physics – Physics 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:

- MATH 2313 Calculus 1
- MATH 2323 Calculus 2
- MATH 2333 Calculus 3
- MATH 2343 Calculus 4
- MATH 3103 Differential Equations (Recommended)
- 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 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 Engineering Physics-Electrical Systems,  
Mechanical Systems, and Physics)

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.