

**Transfer Agreement  
Between  
Oklahoma City Community College  
and  
University of Central Oklahoma**

**Effective Academic Year: 2011-2012**

**Associate in Science Degree in Engineering - Pre-Engineering**

**and**

**Bachelor of Science in Biomedical Engineering-Pre-Medicine**

\_\_\_\_\_  
Dr. Sonya Williams, Director  
Department of Science

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Dr. Baha Jassemnejad, Chair  
Department of Engineering and Physics

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Date

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mr. Max Simmons, Dean  
Science and Mathematics

\_\_\_\_\_  
Dr. John Barthell, Dean  
College of Mathematics and Science

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

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Dr. Felix Aquino  
Vice President for Academic Affairs

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Dr. William Radke, Provost  
Vice President for Academic Affairs

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Date

\_\_\_\_\_  
Date

## Transfer Agreement

Oklahoma City Community College: A.S. in Engineering - Pre-Engineering  
and  
University of Central Oklahoma: B. S. in Biomedical Engineering-Pre-Medicine  
Major Code: 6220

### Oklahoma City Community College Courses

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 1113 Economic Development of the U.S.  
ENGR 2002 Professional Development

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

CHEM 1215 General College Chemistry II

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

PHYS 2014 Engineering Physics I

PHYS 2114 Engineering Physics II

ENGR 2133 Rigid Body Mechanics or  
ENGR 2243 Statics  
CS 2363 C++ (FA Support)  
ENGR 2613 Electrical Science (FA ENG)  
ENGR 2523 Dynamics  
**Total 69 hours**

**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.**

### UCO requirement

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 1204 Biology I for Majors  
CHEM 1103 General Chemistry I **and**  
CHEM 1112 General Chemistry I - Recitation/Lab  
CHEM 1223 General Chemistry II **and**  
CHEM1232 General Chemistry II- Recitation/Lab

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

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

PHY 2014 Physics for Scientist and Engineers I  
and Lab  
PHY 2114 Physics for Scientist and Engineers I  
and Lab

ENGR 2033 Statics

\*ENGR 1213 Engineering Computing  
ENGR 2303 Electrical Science  
ENGR 2043 Dynamics

**To be taken at the University of Central Oklahoma.....61**

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

- FMKT 2323 Global Protocol and Diversity  
(or Foreign Language)
- PHIL 1123 Contemporary Moral Problems (See advisor for substitution.)

**Biomedical Engineering – Pre-Medicine .....55**

**Chemistry..... 6**

Required courses:

- CHEM 3303 Organic Chemistry I
- CHEM 3323 Organic Chemistry II

**Biology..... 7**

Required courses

- BIO 2203 Cell Biology
- BIO 2604 Human Physiology and Lab

**Engineering..... 36**

Required courses:

- ENGR 1112 Introduction to Engineering and Laboratory
- ENGR 1311 Introduction to Biomedical Engineering
- ENGR 2311 Electrical Science Laboratory
- ENGR 3203 Thermodynamics
- ENGR 3222 Digital Logic Design and Laboratory
- ENGR 3302 Engineering Statistics and Experimentation
- ENGR 3323 Signals, Systems and Laboratory
- ENGR 3404 Analog Electronics and Laboratory
- ENGR 4113 Principles of Biomedical Engineering
- ENGR 4132 Biomedical Engineering Laboratory
- ENGR 4223 Biomedical Imaging
- ENGR 4233 Biomedical Instrumentation
- ENGR 4343 Biomechanics
- ENGR 4882 Senior Engineering Design I
- ENGR 4892 Senior Engineering Design II

**Mathematics ..... 3**

Required courses:

- MATH 3103 Differential Equations

**Engineering Electives..... 3**

Any 3000/4000 level PHY or ENGR course with the following exceptions: PHY 0314, 3044, 3054 or 3503.

The following are recommended:

- ENGR 3263 Introduction to Engineering Optics
- ENGR 3803 Electrical Power Systems
- ENGR 4303 Control Systems
- \*ENGR 4613 Photonics
- \*ENGR 4633 Intro to 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 Introduction to Solid State Devices as one of the engineering electives. Students need three 5000-level courses as part of the accelerated program.

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

**Total hours at OCCC.....69**  
**Total hours at UCO.....61**

### **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 the UCO 2011-2012 Undergraduate Catalog.