Transfer Agreement
Between
Oklahoma City Community College
And
University of Central Oklahoma

Effective Academic Year: 2017-2018

Associate in Science-Engineering
To
Bachelor of Science -Engineering Physics-Electrical Engineering
Bachelor of Science- Engineering Physics-Mechanical Engineering
Bachelor of Science-Engineering Physics-Physics

Dr. Max Simmons, Dean
Science, Engineering and Mathematics

7/25/18
Date

Dr. Mohamed Bingabr, Chair
Engineering and Physics

6/21/2018
Date

Ms. Kim Jameson
Associate Vice President for Academic Affairs

7/25/18
Date

Dr. Wei Chen, Dean
College of Mathematics and Science

July 5, 2018
Date

Mr. Greg Gardner
Vice President for Academic Affairs

8/5/2018
Date

Dr. John Barthell, Provost
Vice President for Academic Affairs

7-10-18
Date

Transfer Agreement

Oklahoma City Community College: AS - Engineering
And
University of Central Oklahoma: BS - Engineering Physics – Electrical Engineering

To comply with this agreement, students must complete the associate's degree with the major listed above and include the specific courses listed below.

Courses listed here are required for the agreement. Credited courses completed as part of the AA or AS that do not apply to the general education at OCCC or the UCO major transfer to UCO as electives.

OCCC	UCO
General Education requirements	University Core completed with AA or AS
*PHIL 1213 Introduction to Ethics	PHIL 1123 Contemporary Moral Problems
ENGR 2243 Statics	ENGR 2033 Statics
*MATH 2104 Calculus and Analytic Geometry I	
*MATH 2214 Calculus and Analytic Geometry II	MATH 2313, 2323, 2333, and 2343 Calculus 1
MATH 2314 Calculus and Analytic Geometry III	through Calculus 4
*PHYS 2014 Engineering Physics I	PHY 2014 Physics for Science/Eng I and Lab
*PHYS 2114 Engineering Physics II	PHY 2114 Physics for Science/Eng II and Lab
ENGR 2613 Electrical Science	ENGR 2303 Electrical Science
CS 2363 C++	ENGR 1213 Engineering Computing and Lab (sub
CHEM 1415 Chemistry for Engineers	CHEM 1315 Chemistry for Engineering and Lab

* In General Education Courses section of degree at OCCC

This degree requires additional course work, including the general education, as stated in the OCCC Catalog. Other OCCC courses may or may not apply to the UCO major. That specific information can be found on the UCO website under Transfer Students, Online Transfer Guides.

Total at Oklahoma City Community College.....62-64

To be taken at the University of Central Oklahoma.....60-64

(May be taken at OCCC.) This signifies that a UCO course requirement can be met with the equivalent OCCC course (found on the UCO website). To take this course at OCCC, the student should confirm that it will fit into the associate's degree without exceeding the requirements. A minimum of 60 hours must be taken at a baccalaureate granting institution, so exceeding 64 credit hours at the community college means the student will exceed the minimum of 124 credit hour total. A minimum of 40 hours of 3/4000 level courses are required for the baccalaureate. Courses from community colleges are 1/2000 level.

Support Courses 6

ECON 1103 Introduction to Economics **(May be taken at OCCC.)**
FMKT 2323 Global Protocol and Diversity
(or Foreign Language) **(May be taken at OCCC.)**

Successful completion of the courses listed in the above table satisfies the requirement for the following Support Courses.

*MATH 1533 Algebra for STEM AND **(May be taken at OCCC.)**
*MATH 1593 Plane Trigonometry **(May be taken at OCCC.)**

One year of high school physics OR
PHY 1003 Introduction to Physics **(May be taken at OCCC.)**

Engineering Physics - Electrical Engineering..... 58

Physics 6
Required courses:
PHY 3103 Modern Physics
PHY 3883 Mathematical Physics I

Engineering 46
Required courses:
ENGR 1112 Introduction to Engineering and Laboratory
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 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 4323 Digital and Analog Communication
#*ENGR 4333 Digital Signal Processing
ENGR 4351 Digital Signal Processing Laboratory
#*ENGR 4803 Mechatronics & Laboratory
#ENGR 4882 Senior Engineering Design I
#ENGR 4892 Senior Engineering Design II

Mathematics 3
Required course:
MATH 3103 Differential Equations

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.

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.

Students must meet all bachelor degree requirements at UCO to include minimums of:
40 hours of upper division coursework
30 hours in residence at UCO
15 of the last 30 hours must be taken in residence at UCO
60 hours from baccalaureate granting institutions

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 Engineering, Mechanical Engineering, 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.

Transfer Agreement

Oklahoma City Community College: AS - Engineering
And
University of Central Oklahoma: BS - Engineering Physics – Mechanical Engineering

To comply with this agreement, students must complete the associate's degree with the major listed above and include the specific courses listed below.

Courses listed here are required for the agreement. Credited courses completed as part of the A.A. or A.S. that do not apply to the general education at OCCC or the UCO major transfer to UCO as electives.

OCCC	UCO
General Education requirements	University Core completed with A.A or A.S.
*PHIL 1213 Introduction to Ethics	PHIL 1123 Contemporary Moral Problems
CHEM 1415 Chemistry for Engineers	CHEM 1315 Chemistry for Engineering and Lab
ENGR 2243 Statics	ENGR 2033 Statics
ENGR 2523 Dynamics	ENGR 2043 Dynamics
ENGR 2143 Strength of Materials	ENGR 2143 Strength of Materials
ENGR 2613 Electrical Science	ENGR 2303 Electrical Science
*MATH 2104 Calculus and Analytic Geometry I	
*MATH 2214 Calculus and Analytic Geometry II	MATH 2313, 2323, 2333, and 2343 Calculus 1
MATH 2314 Calculus and Analytic Geometry III	through Calculus 4
*PHYS 2014 Engineering Physics I	PHY 2014 Physics for Science/Eng I and Lab
*PHYS 2114 Engineering Physics II	PHY 2114 Physics for Science/Eng II and Lab

* In General Education Courses section of degree at OCCC

This degree requires additional course work, including the general education, as stated in the OCCC Catalog. Other OCCC courses may or may not apply to the UCO major. That specific information can be found on the UCO website under Transfer Students, Online Transfer Guides.

Total at Oklahoma City Community College.....61-64

To be taken at the University of Central Oklahoma.....60-63

(May be taken at OCCC.) This signifies that a UCO course requirement can be met with the equivalent OCCC course (found on the UCO website). To take this course at OCCC, the student should confirm that it will fit into the associate's degree without exceeding the requirements. A minimum of 60 hours must be taken at a baccalaureate granting institution, so exceeding 64 credit hours at the community college means the student will exceed the minimum of 124 credit hour total. A minimum of 40 hours of 3/4000 level courses are required for the baccalaureate. Courses from community colleges are 1/2000 level.

Support Courses 6

ECON 1103 Introduction to Economics **(May be taken at OCCC.)**
FMKT 2323 Global Protocol and Diversity
(or Foreign Language) **(May be taken at OCCC.)**

Successful completion of the courses listed in the above table satisfies the requirement for the following Support Courses.

*MATH 1533 Algebra for STEM AND **(May be taken at OCCC.)**
*MATH 1593 Plane Trigonometry **(May be taken at OCCC.)**

One year of high school physics OR
PHY 1003 Introduction to Physics **(May be taken at OCCC.)**

Engineering Physics - Mechanical Engineering.....57

Physics 3
Required courses:
PHY 3883 Mathematical Physics I
Engineering 45
Required courses:
ENGR 1112 Introduction to Engineering and Laboratory
ENGR 1213 Engineering and Computing and Laboratory
ENGR 2151 Strength of Materials Lab
ENGR 2311 Electrical Science Laboratory
ENGR 3203 Thermodynamics
ENGR 3211 Thermal Engineering Laboratory
ENGR 3303 Engineering Probability and Statistics
#ENGR 3323 Signals and Systems
ENGR 3331 Signals and Systems Laboratory
#ENGR 3363 Mechanical Engineering Design
#ENGR 3413 Materials Science
#ENGR 3443 Fluid Mechanics
#ENGR 3451 Fluid Mechanics Lab
ENGR 3703 Computational Methods in Engineering
#*ENGR 4123 Heat Transfer
#ENGR 4141 Heat Transfer Lab
#*ENGR 4533 Thermal Systems Design
#*ENGR 4803 Mechatronics & Laboratory
#ENGR 4882 Senior Engineering Design I
#ENGR 4892 Senior Engineering Design II
Mathematics 3
Required course:
MATH 3103 Differential Equations
Physics or Engineering Electives 6
Selected from the following:
ENGR 3153 Machine Dynamics
ENGR 3223 Digital Logic Design and Laboratory
ENGR 4103 Finite Element Analysis
ENGR 4153 Vibration
ENGR 4203 Refrigeration and Air Conditioning
ENGR 4303 Control Systems
ENGR 4313 Fluid Dynamics
BME 4343 Biomechanics
PHY 4163 Analytical Mechanics

*Students in the Accelerated BS/MS program in Engineering Physics must enroll in the graduate level versions of this course.

Admission into Engineering and Physics Upper Division is required.

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

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.

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Completed 60 semester credit hours by the time the student is formally admitted into upper division.

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MATH	2333	Calculus 3
MATH	2343	Calculus 4
MATH	3103	Differential Equations (Recommended)
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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)
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Transfer Agreement

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ENGR 2613 Electrical Science	ENGR 2303 Electrical Science
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*MATH 2214 Calculus and Analytic Geometry II	MATH 2313, 2323, 2333, and 2343 Calculus 1
MATH 2314 Calculus and Analytic Geometry III	through Calculus 4
CHEM 1415 Chemistry for Engineers	CHEM 1315 Chemistry for Engineers
*PHYS 2014 Engineering Physics I	PHY 2014 Physics for Science/Eng I and Lab
*PHYS 2114 Engineering Physics II	PHY 2114 Physics for Science/Eng II and Lab

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One year of high school physics OR
PHY 1003 Introduction to Physics **(May be taken at OCCC.)**

Engineering Physics – Physics.....57
Physics 15
Required courses 9
PHY 3103 Modern Physics
PHY 3883 Mathematical Physics I
*PHY 4203 Quantum Mechanics
*Physics or Engineering Elective 3
4000-level PHY, ENGR, or BME course
*Physics Elective.....3
4000-level PHY course
Engineering 39
Required courses 36
ENGR 1112 Introduction to Engineering and Laboratory
ENGR 1213 Engineering Computing and Laboratory
ENGR 2311 Electrical Science Laboratory
#ENGR 3183 Electromagnetic Fields I
ENGR 3203 Thermodynamics
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
#ENGR 3443 Fluid Mechanics
ENGR 3703 Computational Methods in Engineering
ENGR 4263 Engineering Optics
#ENGR 4882 Senior Engineering Design I
#ENGR 4892 Senior Engineering Design II
Engineering Electives.....3
Any 2000-level, 3000-level, or 4000-level ENGR or BME course
Mathematics 3
Required courses:
MATH 3103 Differential Equations

*Students in the Accelerated BS/MS program in Engineering Physics must enroll in the graduate level versions of this course. Students may take only three 5000-level courses as part of the accelerated program.

Admission into Engineering and Physics Upper Division is required.

Electives to bring total to.....124*

*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

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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
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