AN ARTICULATION AGREEMENT
BETWEEN
ROBERT MORRIS UNIVERSITY
AND
COMMUNITY COLLEGE OF ALLEGHENY COUNTY

OBJECTIVE OF THE AGREEMENT

Based on the commonality of purpose and a mutual goal of assuring a quality education, Community College of Allegheny County and Robert Morris University enter into the following articulation agreement. The primary objective of this agreement is to maximize credit transferability while retaining all Robert Morris academic requirements and providing a rigorous program of study. This agreement will afford students the opportunity to realize their educational goals and enhance their future employability through a curriculum that is both challenging and rewarding.

TERMS AND CONDITIONS OF THE AGREEMENT

This agreement applies to Community College of Allegheny County (CCAC) graduates with an earned Associate in Science Degree in Engineering Science who plan to enter Robert Morris University (RMU) in a major under the Bachelor of Science degree program majoring in Engineering with a concentration in Biomedical Engineering, Industrial Engineering, Mechanical Engineering or Software Engineering.

Up to 57 credits will be granted to students who have successfully completed an Associate Degree provided that:

- Students have completed the curriculum as outlined in the CCAC 2014-2015 College catalog
- Students have fulfilled grade requirements of the major into which they are transferring.

Courses completed at other academic institutions do not affect the nature or scope of this agreement. Said courses will be evaluated according to the Academic Policies of RMU regarding transfer credits.

RMU will provide an official evaluation of all previously completed coursework and placement of those credits at the time of application.

RMU reserves the right to change program requirements and/or transfer equivalents.

Notice of changes in program requirements by any party of this agreement must be given in writing in a timely manner.

RMU acknowledges that some credits earned towards the Associate Degree at CCAC may have been awarded as Advanced Standing credit as a result of transfer or prior learning assessment, to include standardized examinations, military coursework, or portfolio credit. This agreement maintains that these credits earned toward the Associate Degree will be honored.

Termination of this agreement may be made by any party, and must be in writing.

Students who sign a letter of intent are indicating their interest in attending RMU and will be entitled to:

- a waiver of the RMU application fee

- advanced registration along with RMU students

- participation in academic department functions and activities while enrolled at CCAC

However, this letter of intent does not obligate students to attend RMU. Students who sign a letter of intent must matriculate within three years.

CCAC will properly advertise and will provide information regarding RMU, its academic programs, requirements, and services extended to the transfer graduate under the terms of this agreement.

CCAC will communicate with the RMU Academic Services Office regarding issues and questions posed by participating students.

CCAC will provide the RMU Enrollment Management Office with the names and addresses of CCAC students who have indicated an interest in attending RMU and would benefit from major department activity information.

The undersigned duly authorized officials agree to abide by the above terms and conditions.

APPROVED BY:

COMMUNITY COLLEGE OF ALLEGHENY COUNTY		ROBERT MORRIS UNIVERSITY	
Quintin B. Bullock, DDS President	6/4/15 Date	Gregory G. Dell'Omo, Ph.D. President	4-9-15 Date

ROBERT MORRIS UNIVERSITY

EFFECTIVE FALL 2015

ACADEMIC REQUIREMENTS FOR
Bachelor of Science
Major: ENGINEERING
Concentration: Biomedical Engineering

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

CHEM1210	Chemistry I	3 CHM151	HIST____	History Elective** or	3____
CHEM1215	Chemistry I Lab	1 CHM151	POLS_____	Political Science Elective**	
COSK1220	Reading and Writing Strategies or	3 ENG101	**(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700, HIST1800 or POLS1020)**		
COSK1221	Argument and Research	3 ENG102	HUMA1010	Humanities: Art and Music	3 TRAN
COSK2220	Public Speaking and Persuasion	3____	INFS1020	Introduction to Decision Support Systems	3 TRAN
COSK2230	Professional Communications	3____	*MATH2070	Calculus w/Analytic Geometry I	4 MAT201
ECON1010	Survey of Economics	3____	PSYC1010	General Psychology	3 PSY101
ELIT_____	Literature Elective	3____	SOCI1020	Contemporary American Social Prob	3 SOC212

2. MATH AND SCIENCE--31 Credits

BIOL1210	Anatomy and Physiology I	3____	MATH2170	Calculus with Analytic Geometry II	4 MAT202
BIOL1215	Anatomy and Physiology I Lab	1____	MATH3090	Calculus with Analytic Geometry III	4 MAT250
	One set (4) credits from the following:		MATH3420	Differential Equations	3 MAT252
BIOL1220	Anatomy and Physiology II	3 CHM152	PHYS1210	Physics I	3 PHY221
BIOL1225	Anatomy and Physiology II Lab	1 CHM152	PHYS1215	Physics I Lab	1 PHY221
	or CHEM2210 Chemistry II		PHYS2210	Physics II	3 PHY222
	and CHEM2215 Chemistry II Lab		PHYS2215	Physics II Lab	1 PHY222
ENGR2080	Engineering Statistics	3____			

3. BUSINESS--9 Credits

ACCT1020	Fundamentals of Accounting	3____	MGMT3100	Management Theory and Practice	3 BUS103
MARK3100	Principles of Marketing	3 BUS104			

4. BASIC ENGINEERING—12 Credits

ENGR1610	Statics and Strength of Materials	3____	ENGR2160	Engineering Graphics	3 EGR101
ENGR2140	Circuits and Electromagnetics	3____	ENGR2180	Engineering Materials	3____

5. MAJOR--31 Credits

ENGR1010	Introduction to Engineering	3____	*ENGR3510	Biomechanics	3____
*ENGR2100	Dynamics	3____	*ENGR4520	Design and Manufacturing of Biomedical Engineering Devices and Systems	4____
*ENGR2510	Biomedical Engineering Principles	3____			
*ENGR3110	Thermodynamics and Energetics	3____	*ENGR4900	Engineering Practice	3____
ENGR3200	Value Design	3____	*ENGR4950	Integrated Engineering Design	3____
*ENGR3300	Fluid Mechanics	3			

6. APPROVED ELECTIVES--3 Credits Minimum **(Choose two from the following: ENGR3600 Production Engineering, ENGR3680 Intro to Quality Engineering, ENGR4030 Project Engineering, ENGR4170 Numerical Methods, ENGR4200 Safety and Methods Engineering, ENGR4510 Introduction to Biomaterials, ENGR4700 Robotics and Automation, and ENGR4801 Rapid Prototyping and Reverse Engineering**

_____ _____ 3____

IMPORTANT NOTES:

Up to 57 credits apply to this degree program from CCAC

A minimum grade of C must be earned in each course identified with an asterisk.

A cumulative Q.P.A. of 2.00 or higher is required for graduation.

All students must take 12 credits of Communication Skills as part of the RMU Core Curriculum. Depending upon placement testing scores, students will take COSK1220 or COSK2221 in addition to COSK1221, COSK2220, and COSK2230. If placed in COSK1220, a student's Core requirements are Communication Skills COSK1220, COSK1221, COSK2220, and COSK2230. If placed in COSK1221 (advanced placement; no credit earned for COSK1220), a student's Core requirements are Communication Skills COSK1221, COSK2220, COSK2221, and COSK2230. Upon completion of the COSK courses, students must complete a component of courses (the specific number is determined by the student's "academic"School) to meet one of the requirements for graduation. These courses called "Communication Skills Intensive" are integrated into the degree as part of the "major" areas of the checksheet.

Major Code - MCEN

Checksheet Code – EB

ROBERT MORRIS UNIVERSITY

EFFECTIVE FALL 2015

ACADEMIC REQUIREMENTS FOR
Bachelor of Science
Major: ENGINEERING
Concentration: Industrial Engineering

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

CHEM1210	Chemistry I	3 CHM151	HIST____	History Elective** or	3____
CHEM1215	Chemistry I Lab	1 CHM151	POLS____	Political Science Elective**	
COSK1220	Reading and Writing Strategies or	3 ENG101	**(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700, HIST1800 or POLS1020)**		
COSK1221	Argument and Research	3 ENG102	HUMA1010	Humanities: Art and Music	3 TRAN
COSK2220	Public Speaking and Persuasion	3____	INFS1020	Introduction to Decision Support Systems	3 TRAN
COSK2230	Professional Communications	3____	*MATH2070	Calculus w/Analytic Geometry I	4 MAT201
ECON1010	Survey of Economics	3____	PSYC1010	General Psychology	3 PSY101
ELIT____	Literature Elective	3____	SOCI1020	Contemporary American Social Prob	3 SOC212

2. MATH AND SCIENCE--25 Credits

ENGR2080	Engineering Statistics	3____	PHYS1210	Physics I	3 PHY221
MATH2170	Calculus with Analytic Geometry II	4MAT202	PHYS1215	Physics I Lab	1 PHY221
MATH3090	Calculus with Analytic Geometry III	4MAT250	PHYS2210	Physics II	3 PHY222
MATH3400	Linear Algebra with Applications	3____	PHYS2215	Physics II Lab	1 PHY222
MATH3420	Differential Equations	3 MAT252			

3. BUSINESS--9 Credits

ACCT1020	Fundamentals of Accounting	3____	MGMT3100	Management Theory and Practice	3 BUS103
MARK3100	Principles of Marketing	3 BUS104			

4. BASIC ENGINEERING--9 Credits

ENGR1610	Statics and Strength of Materials	3____	ENGR2180	Engineering Materials	3____
ENGR2160	Engineering Graphics	3 EGR101			

5. MAJOR--30 Credits

ENGR1010	Introduction to Engineering	3____	ENGR4200	Safety and Methods Engineering	3____
ENGR2500	Human Factors Engineering	3____	*ENGR4900	Engineering Practice	3____
ENGR3200	Value Design	3____	*ENGR4950	Integrated Engineering Design	3____
ENGR3500	Material Handling and Plant Layout	3____	ENGR____	Engineering Elective	3____
ENGR3700	Manufacturing Planning and Control	3____	INFS2184	C++ Programming	3 CIT245

6. APPROVED ELECTIVES--12 Credits Minimum **(Choose four from the following: ENGR3250 Automated Identification Systems, ENGR3600 Production Engineering, ENGR3650 Product and Tool Design, ENGR3680 Intro to Quality Engineering, ENGR3900 Optimization Technology Industrial Engineering, ENGR4030 Project Engineering, ENGR4400 Device Control, ENGR4650 Simulation, ENGR4700 Robotics and Automation or ENGR4801 Rapid Prototyping and Reverse Engineering)**

_____	_____	3____	_____	_____	3____
_____	_____	3____	_____	_____	3____

IMPORTANT NOTES:

Up to 57 credits applied to this degree program from CCAC

A minimum grade of C must be earned in each course identified with an asterisk.

All students must take 12 credits of Communication Skills as part of the RMU Core Curriculum. Depending upon placement testing scores, students will take COSK1220 or COSK2221 in addition to COSK1221, COSK2220, and COSK2230. If placed in COSK1220, a student's Core requirements are Communication Skills COSK1220, COSK1221, COSK2220, and COSK2230. If placed in COSK1221 (advanced placement; no credit earned for COSK1220), a student's Core requirements are Communication Skills COSK1221, COSK2220, COSK2221, and COSK2230. Upon completion of the COSK courses, students must complete a component of courses (the specific number is determined by the student's "academic" School) to meet one of the requirements for graduation. These courses called "Communication Skills Intensive" are integrated into the degree as part of the "major" areas of the checksheet.

Major Code - ENGR
Checksheet Code – ED

ROBERT MORRIS UNIVERSITY

EFFECTIVE FALL 2015

ACADEMIC REQUIREMENTS FOR
Bachelor of Science
Major: ENGINEERING
Concentration: Mechanical Engineering

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

CHEM1210	Chemistry I	3 CHM151	HIST____	History Elective** or	3____
CHEM1215	Chemistry I Lab	1 CHM151	POLS____	Political Science Elective**	
COSK1220	Reading and Writing Strategies or	3ENG101	(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700, HIST1800 or POLS1020)		
	COSK2221 Intercultural Communications		HUMA1010	Humanities: Art and Music	3 TRAN
COSK1221	Argument and Research	3 ENG102	INFS1020	Introduction to Decision Support Syst	3 TRAN
COSK2220	Public Speaking and Persuasion	3____	*MATH2070	Calculus w/Analytic Geometry I	4 MAT201
COSK2230	Professional Communications	3____	PSYC1010	General Psychology	3 PSY101
ECON1010	Survey of Economics	3____	SOCI1020	Contemporary American Social Prob	3 SOC212
ELIT____	Literature Elective	3____			

2. MATH AND SCIENCE--25 Credits

ENGR2080	Engineering Statistics	3____	PHYS1210	Physics I	3 PHY221
MATH2170	Calculus with Analytic Geometry II	4 MAT202	PHYS1215	Physics I Lab	1 PHY221
MATH3090	Calculus with Analytic Geometry III	4 MAT250	PHYS2210	Physics II	3 PHY222
MATH3400	Linear Algebra w/Applications	3____	PHYS2215	Physics II Lab	1 PHY222
MATH3420	Differential Equations	3 MAT252			

3. BUSINESS--9 Credits

ACCT1020	Fundamentals of Accounting	3____	MGMT3100	Management Theory and Practice	3 BUS103
MARK3100	Principles of Marketing	3 BUS104			

4. BASIC ENGINEERING—12 Credits

ENGR1610	Statics and Strength of Materials	3____	ENGR2160	Engineering Graphics	3 EGR101
ENGR2140	Circuits and Electromagnetics	3____	ENGR2180	Engineering Materials	3____

5. MAJOR--33 Credits

ENGR1010	Introduction to Engineering	3____	*ENGR4100	Machine Design	3____
*ENGR2100	Dynamics	3____	*ENGR____	Engineering Elective	3____
*ENGR3110	Thermodynamics and Energetics	3____	*ENGR4900	Engineering Practice	3____
ENGR3200	Value Design	3____	*ENGR4950	Integrated Engineering Design	3____
*ENGR3300	Fluid Mechanics	3____	*INFS2184	C++ Programming	3 CIT245
*ENGR3350	Heat Transfer	3____			

6. APPROVED ELECTIVES--6 Credits Minimum

(Choose two from the following: ENGR3250 Automated Identification Systems, ENGR3500 Material Handling and Plant Layout, ENGR3600 Production Engineering, ENGR3650 Product and Tool Design ENGR3680 Intro to Quality Engineering, ENGR4030 Project Engineering, ENGR4170 Numerical Methods, ENGR4200 Safety and Methods Engineering, ENGR4400 Device Control, ENGR4700 Robotics and Automation and ENGR4801 Rapid Prototyping and Reverse Engineering)

_____	_____	3____	_____	_____	3____

IMPORTANT NOTES:

Up to 57 credits apply to this degree program from CCAC

A minimum grade of C must be earned in each course identified with an asterisk.

All students must take 12 credits of Communication Skills as part of the RMU Core Curriculum. Depending upon placement testing scores, students will take COSK1220 or COSK2221 in addition to COSK1221, COSK2220, and COSK2230. If placed in COSK1220, a student's Core requirements are Communication Skills COSK1220, COSK1221, COSK2220, and COSK2230. If placed in COSK1221 (advanced placement; no credit earned for COSK1220), a student's Core requirements are Communication Skills COSK1221, COSK2220, COSK2221, and COSK2230. Upon completion of the COSK courses, students must complete a component of courses (the specific number is determined by the student's "academic"School) to meet one of the requirements for graduation. These courses called "Communication Skills Intensive" are integrated into the degree as part of the "major" areas of the checksheet.

Major Code - MCEN
Checksheet Code – EH

ROBERT MORRIS UNIVERSITY

EFFECTIVE FALL 2015

ACADEMIC REQUIREMENTS FOR
Bachelor of Science
Major: ENGINEERING
Concentration: Software Engineering

1. ROBERT MORRIS UNIVERSITY CORE–41 Credits

CHEM1210	Chemistry I	3 CHM151	HIST____	History Elective** or	3____
CHEM1215	Chemistry I Lab	1 CHM151	POLS____	Political Science Elective**	
COSK1220	Reading and Writing Strategies or	3 ENG101	(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700 HIST1800 or POLS1020)		
COSK1221	Argument and Research	3 ENG102	HUMA1010	Humanities: Art and Music	3 TRAN
COSK2220	Public Speaking and Persuasion	3____	INFS1020	Introduction to Decision Support Syst	3 TRAN
COSK2230	Professional Communications	3____	*MATH2070	Calculus w/Analytic Geometry I	4 MAT201
ECON1010	Survey of Economics	3____	PSYC1010	General Psychology	3 PSY101
ELIT____	Literature Elective	3____	SOCI1020	Contemporary American Social Prob	3 SOC212

2. MATH AND SCIENCE –25 Credits

ENGR2080	Engineering Statistics	3____	PHYS1210	Physics I	3 PHY221
MATH2170	Calculus with Analytic Geometry II	4 MAT202	PHYS1215	Physics I Lab	1 PHY221
MATH3090	Calculus with Analytic Geometry III	4 MAT250	PHYS2210	Physics II	3 PHY222
MATH3420	Differential Equations	3 MAT252	PHYS2215	Physics II Lab	1 PHY222
MATH4000	Discrete Mathematics	3____			

3. BUSINESS –9 Credits

ACCT1020	Fundamentals of Accounting	3____	MGMT3100	Management Theory and Practice	3BUS103
MARK3100	Principles of Marketing	3BUS104			

4. BASIC ENGINEERING—9 Credits

ENGR1610	Statics and Strength of Materials	3____	ENGR2160	Engineering Graphics	3 EGR101
ENGR2140	Circuits and Electromagnetics	3____			

5. MAJOR –30 Credits

ENGR1010	Introduction to Engineering	3____	*ENGR4900	Engineering Practice	3____
ENGR3200	Value Design	3____	*ENGR4950	Integrated Engineering Design	3____
*ENGR3400	Software Verification and Validation	3____	*INFS2151	JAVA Programming	3____
*ENGR3410	Fundamentals of Software Engineering	3____	*INFS2184	Programming in C++	3CIT245
*ENGR4450	Distributed Systems Implementation	3____	*INFS3185	Data Structures with C++	3____

6. APPROVED ELECTIVES–12 Credits Minimum

Students may choose from the following courses: ENGR3420 Computer Architecture for Software Engineers, ENGR4170 Numerical Methods, ENGR4650 Simulation, ENGR4700 Robotics and Automation, INFS3210 Operating Systems Concepts, INFS3188 Object-Oriented Applications Programming, INFS3440 Health Care Information Systems, INFS4240 Database Management Systems, INFS4241 Open Source e-Commerce Development, INFS4630 Intro to Geographic Information Systems, INFS3230 Networks/Data Computer Communications, INFS3235 Computer and Network Security, and/or INFS3236 Local Area Network Design Management.

_____	_____	3____	_____	_____	3____
_____	_____	3____	_____	_____	3____

IMPORTANT NOTES:

Up to 58 credits apply to this degree program from CCAC

A minimum grade of C must be earned in each course identified with an asterisk.

All students must take 12 credits of Communication Skills as part of the RMU Core Curriculum. Depending upon placement testing scores, students will take COSK1220 or COSK2221 in addition to COSK1221, COSK2220, and COSK2230. If placed in COSK1220, a student's Core requirements are Communication Skills COSK1220, COSK1221, COSK2220, and COSK2230. If placed in COSK1221 (advanced placement; no credit earned for COSK1220), a student's Core requirements are Communication Skills COSK1221, COSK2220, COSK2221, and COSK2230. Upon completion of the COSK courses, students must complete a component of courses (the specific number is determined by the student's "academic"School) to meet one of the requirements for graduation. These courses called "Communication Skills Intensive" are integrated into the degree as part of the "major" areas of the checksheet.

Major Code – ENGR
Checksheet Code – EG

SEMESTER BY SEMESTER BREAKDOWN OF COURSE EQUIVALENTS			
CCAC COURSES		RMU EQUIVALENT	
CRSE NO	COURSE TITLE	CRSE NO	COURSE TITLE
First Semester			
EGR100	Engineering Seminar		Not Applicable
ENG101	English Composition I	COSK1220	Reading/Writing Strategies
MAT201	Calculus I	MATH2070	Calculus with Analytic Geometry I
BUS103	Principles of Management **(General Elective)**	MGMT3100	Management Theory and Practice
BUS104	Principles of Marketing **(General Elective)**	MARK3100	Principles of Marketing
Second Semester			
EGR101	Engineering Graphics **(Restricted Elective)**	ENGR2160	Engineering Graphics
ENG102	English Composition II	COSK1221	Argument and Research
MAT202	Calculus II	MATH2170	Calculus with Analytic Geometry II
PHY221	Physics for Science and Engineering I	PHYS1210	Physics I and Lab (1215)
CIT	Computer Programming Elective	INFS1020	Intro to Decision Support Systems
Third Semester			
MAT250	Calculus III	MATH3090	Calculus with Analytic Geometry III
PHY222	Physics for Science and Engineering II	PHYS2210	Physics II and Lab (2215)
	Humanities Elective **(ART, MUS, PHL, THE)**	HUMA1010	Humanities: Art and Music
CHM151	General Chemistry I **(Restricted Elective)**	CHEM1210	Chemistry I and Lab (1215)
CIT245	Data Structures & Programming: C++ **(Restricted Elective) *****	INFS2184	C++ Programming
Fourth Semester			
MAT252	Differential Equations With Linear Alg	MATH3420	Differential Equations
PHY223	Physics for Science and Engineering III		Not Applicable
PSY101	General Psychology **(Social Science Elective)****	PSYC1010	General Psychology
CHM152	General Chemistry II **(Restricted Elective)******	CHEM2210	General Chemistry II and Lab (2215)
SOC212	Social Problems **(Restricted Elective)**	SOCI1020	Contemporary American Social Prob.

**Students may also complete any HIS/POL course for their Social Science requirement at CCAC.

***Not applied to the Biomedical Engineering Concentration
Students may also choose from the following to fulfill this requirement: CIT145 Programming in C, CIT161 Visual Basic: Windows Programming, or CIT111 Introduction to Programming: JAVA

****Applied to the Biomedical Engineering Concentration only