

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

OBJECTIVE OF THE AGREEMENT

Based on the commonality of purpose and a mutual goal of assuring a quality education, Community College of Beaver 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 Beaver County (CCBC) graduates with an earned Associate in Sciences Degree in Pre-Engineering who plan to enter Robert Morris University (RMU) in a major under the Bachelor of Science degree program majoring in Manufacturing Engineering.

Up to 51 credits will be granted to students who have successfully completed an Associate Degree provided that:

- Students have completed the curriculum as outlined in the CCBC 2016-2017 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.

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 department functions and activities while enrolled at CCBC

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

CCBC 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.

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

CCBC will provide the RMU Admissions Office with the names and addresses of CCBC 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 BEAVER COUNTY    ROBERT MORRIS UNIVERSITY

\_\_\_\_\_  
Christopher M. Reber, Ph.D.                      Date  
President

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Christopher B. Howard, D. Phil.                      Date  
President





**ROBERT MORRIS UNIVERSITY**

**ACADEMIC REQUIREMENTS FOR  
Bachelor of Science**

**School: Engineering, Mathematics, and Science**

**Major: MANUFACTURING ENGINEERING**

**Department: Engineering**

**Minimum Credits Required - 126**

**1. ROBERT MORRIS UNIVERSITY CORE--41 Credits**

CHEM1210	Chemistry I	3	CHEM101	HIST_____	History Elective** or	3_____
CHEM1215	Chemistry I Lab	1	CHEM101	POLS_____	Political Science Elective**	
COSK1220	Reading and Writing Strategies	3	WRIT101	(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700 HIST1800 or POLS1020)		
COSK1221	Argument and Research	3_____		HUMA1010	Humanities: Art and Music	3TRAN
COSK2220	Public Speaking and Persuasion	3	COMM201	INFS1020	Intro to Decision Support Systems	3CIST100
COSK2230	Professional Communications	3_____		*MATH2070	Calculus w/Analytic Geometry I	4MATH160
ECON1010	Survey of Economics	3_____		PSYC1010	General Psychology	3PSYC101
ELIT_____	Literature Elective	3	LITR210	SOCI1020	Contemporary American Social Problems	3_____

**2. MATH AND SCIENCE --25 Credits**

ENGR2080	Engineering Statistics	3_____		MATH3400	Linear Algebra with Applications	3_____
MATH2170	Calc with Analytic Geometry II	4	MATH161	MATH3420	Differential Equations	3_____
CHEM2210	Chemistry II/CHEM2215 Chem Lab	4	CHEM102	PHYS1210	Physics I	3PHYS202
				PHYS1215	Physics I Lab	1PHYS202
				PHYS2210	Physics II	3PHYS203
				PHYS2215	Physics II Lab	1PHYS203

**3. BUSINESS –9 Credits**

ACCT1020	Fundamentals of Accounting	3_____		MGMT3100	Management Theory and Practice	3_____
MARK3100	Principles of Marketing	3_____				

**4. BASIC ENGINEERING—12 Credits**

ENGR1610	Statics and Strength of Materials	3_____		ENGR2160	Engineering Graphics	3ENGR120
ENGR2140	Circuits and Electromagnetics	3_____		ENGR2180	Engineering Materials	3_____

**5. MAJOR --33 Credits**

ENGR1010	Introduction to Engineering	3	ENGR100	ENGR4400	Device Control	3_____
ENGR3200	Value Design	3_____		ENGR4650	Simulation	3_____
ENGR3600	Production Engineering	3_____		*ENGR4900	Engineering Practice	3_____
ENGR3650	Product and Tool Design	3_____		*ENGR4950	Integrated Engineering Design	3_____
ENGR3680	Introduction to Quality Engineering	3_____		INFS2184	C++ Programming	3CIST150
ENGR3700	Manufacturing Planning and Control	3_____				

**6. APPROVED ELECTIVES--6 Credits Minimum**

Choose from: ENGR3250 Automated Identification Systems, ENGR3500 Material handling and Plant Layout, ENGR3900 Optimization of Techniques of Industrial Engineering, ENGR4030 Project Engineering, ENGR4200 Safety and Methods Engineering, ENGR4700 Robotics and Automation, and/or ENGR4801 Rapid Prototyping/Reverse Engineering. Other Engineering electives may be chosen with advisor approval.

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**IMPORTANT NOTES:**

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

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

51 credits apply to this degree program.

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 – MFEN

Checksheet Code – ME

*Academic Year – 2016-2017*

**SEMESTER BY SEMESTER BREAKDOWN OF COURSE EQUIVALENTS**

CCBC COURSES		RMU EQUIVALENT	
CRSE NO	COURSE TITLE	CRSE NO	COURSE TITLE
<b>First Semester</b>			
CHEM101	General Chemistry I	CHEM1210	Chemistry I and Lab (CHEM1215)
CIST100	Intro to Information Technology	INFS1020	Intro to Decision Support Systems
MATH155	Pre-Calculus	MATH1020	Pre-Calculus (Not Applicable)
ENGR100	Introduction to Engineering	ENGR1010	Introduction to Engineering
CIST130	Introduction to Agile Robotics		Not Applicable
<b>Second Semester</b>			
CHEM102	General Chemistry II	CHEM2210	Chemistry II and Lab (CHEM2215)
ENGR120	CAD: Computer Aided Drafting	ENGR2160	Engineering Graphics
WRIT101	English Composition	COSK1220	Reading and Writing Strategies
MATH160	Calculus I	MATH2070	Calculus w/Analytic Geometry I
CIST135	Integrated Intelligent Systems		Not Applicable
<b>Third Semester</b>			
CIST150	C++ Programming or CIST160	INFS2184	C++ Programming
MATH161	Calculus II	MATH2170	Analytical Calculus with Geometry II
PHYS202	University Physics I	PHYS1210	Physics I and Lab (PHYS1215)
LITR210	Concepts of Literature	ELIT1999	Literature Elective
<b>Fourth Semester</b>			
COMM201	Public Speaking	COSK2220	Public Speaking and Persuasion
PHYS203	University Physics II	PHYS2210	Physics II and Lab (PHYS2215)
PSYC101	General Psychology (TAOC Category Five)	PSYC1010	General Psychology
	TAOC Category six (Any FINE, MUSI, PHIL)	HUMA1010	Humanities: Art and Music

Students are also encouraged to take up to 18 credits from the following selection:

- SOCI210
- Any HIST or POLS course
- ACCT110 Financial Accounting
- BUSM112 Principles of Management
- BUSM245 Principles of Marketing
- BUSM255 Macroeconomics **or** BUSM256 Microeconomics

Maximum of 69 credits can transfer