

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

*CHEM1210	Chemistry I	3	CHEM101	HIST____	History Elective	3	HIST____
*CHEM1215	Chemistry I Lab	1	CHEM101	HUMA1010	Humanities: Art and Music	3	ELIT____
COSK1220	Reading and Writing Strategies	3	WRIT101	INFS1020	Intro to Decision Support Systems	3	CIST100
COSK1221	Argument and Research	3	____	*MATH2070	Calculus w/Analytic Geometry I	4	MATH160
COSK2220	Public Speaking and Persuasion	3	COMM201	PSYC1010	General Psychology	3	PSYC101
COSK2230	Professional Communications	3	____	SOCI1010	Principles of Sociology or	3	SOCI101
ECON1010	Survey of Economics	3	____	SOCI2320	Contemporary Amer Social Probl	3	SOCI210
ELIT____	Literature Elective	3	LITR____				

2. MATH AND SCIENCE--25 Credits

*ENGR2080	Engineering Statistics	3	____	*PHYS1210	Physics I	3	PHYS101
*MATH2170	Calculus with Analytic Geometry II	4	MATH161	*PHYS1215	Physics I Lab	1	PHYS101
*MATH3090	Calculus with Analytic Geometry III	4	____	PHYS2210	Physics II	3	PHYS102
MATH3400	Linear Algebra w/Applications	3	____	PHYS2215	Physics II Lab	1	PHYS102
MATH3420	Differential Equations	3	____				

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	3	____
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	____	ENGR4150	Design & Analysis of Mechanical Systems	3	____
*ENGR3110	Thermodynamics and Energetics	3	____	*ENGR4900	Engineering Practice	3	____
ENGR3200	Value Design	3	____	*ENGR4950	Integrated Engineering Design	3	____
*ENGR3300	Fluid Mechanics	3	____	INFS3184	C++ Programming	3	____
ENGR3350	Heat Transfer	3	____				

6. APPROVED ELECTIVES--6 Credits Minimum (Choose two from the following: ENGR4030, ENGR4170, ENGR4700 or ENGR4801)

_____ 3____
 _____ 3____

Up to 44 credits apply to this degree program from CCBC.

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*CHEM1210	Chemistry I	3	CHEM101	HIST____	History Elective	3	HIST____
*CHEM1215	Chemistry I Lab	1	CHEM101	HUMA1010	Humanities: Art and Music	3	ELIT____
COSK1220	Reading and Writing Strategies	3	WRIT101	INFS1020	Intro to Decision Support Systems	3	CIST100
COSK1221	Argument and Research	3	____	*MATH2070	Calculus w/Analytic Geometry I	4	MATH160
COSK2220	Public Speaking and Persuasion	3	COMM201	PSYC1010	General Psychology	3	PSYC101
COSK2230	Professional Communications	3	____	SOCI1010	Principles of Sociology or	3	SOCI101
ECON1010	Survey of Economics	3	____	SOCI2320	Contemporary Amer Social Probl	3	SOCI210
ELIT____	Literature Elective	3	LITR____				

2. MATH AND SCIENCE--25 Credits

*ENGR2080	Engineering Statistics	3	____	*PHYS1210	Physics I	3	PHYS101
*MATH2170	Calculus with Analytic Geometry II	4	MATH161	*PHYS1215	Physics I Lab	1	PHYS101
*MATH3090	Calculus with Analytic Geometry III	4	____	PHYS2210	Physics II	3	PHYS102
MATH3420	Differential Equations	3	____	PHYS2215	Physics II Lab	1	PHYS102
MATH4000	Discrete Mathematics	3	____				

3. BUSINESS --9 Credits

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

4. BASIC ENGINEERING—9 Credits from the following:

ENGR1610	Statics and Strength of Materials	3	____	ENGR2180	Engineering Materials	3	____
ENGR2140	Circuits and Electromagnetics	3	____	ENGR3110	Thermodynamics and Energetics	3	____
ENGR2160	Engineering Graphics	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	____	INFS3151	JAVA Programming	3	____
*ENGR3410	Fundamentals of Software Engineering	3	____	INFS3184	Programming in C++	3	____
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, ENGR4650 Simulation, ENGR4700 Robotics and Automation, INFS2130 Cobol Programming, INFS3188 Object-Oriented Applications Programming, INFS3220 Systems Analysis, INFS2210 Operating Systems Concepts, INFS4240 Database Management Systems, INFS3230 Networks/Data Computer Communications, INFS3235 Computer and Network Security, and/or INFS3236 Local Area Network Design Management.

_____	_____	3	_____	_____	_____	3	_____
_____	_____	3	_____	_____	_____	3	_____

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EFFECTIVE FALL 2009

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

*CHEM1210	Chemistry I	3	CHEM101	HIST____	History Elective	3	HIST____
*CHEM1215	Chemistry I Lab	1	CHEM101	HUMA1010	Humanities: Art and Music	3	ELIT____
COSK1220	Reading and Writing Strategies	3	WRIT101	INFS1020	Intro to Decision Support Systems	3	CIST100
COSK1221	Argument and Research	3	____	*MATH2070	Calculus w/Analytic Geometry I	4	MATH160
COSK2220	Public Speaking and Persuasion	3	COMM201	PSYC1010	General Psychology	3	PSYC101
COSK2230	Professional Communications	3	____	SOCI1010	Principles of Sociology or	3	SOCI101
ECON1010	Survey of Economics	3	____	SOCI2320	Contemporary Amer Social Probl	3	SOCI210
ELIT____	Literature Elective	3	LITR____				

2. MATH AND SCIENCE--25 Credits

*ENGR2080	Engineering Statistics	3	____	*PHYS1210	Physics I	3	PHYS101
*MATH2170	Calculus with Analytic Geometry II	4	MATH161	*PHYS1215	Physics I Lab	1	PHYS101
*MATH3090	Calculus with Analytic Geometry III	4	____	PHYS2210	Physics II	3	PHYS102
MATH3400	Linear Algebra w/Applications	3	____	PHYS2215	Physics II Lab	1	PHYS102
MATH3420	Differential Equations	3	____				

3. BUSINESS--9 Credits

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

4. BASIC ENGINEERING--9 Credits from the following:

ENGR1610	Statics and Strength of Materials	3	____	ENGR2180	Engineering Materials	3	____
ENGR2140	Circuits and Electromagnetics	3	____	ENGR3110	Thermodynamics and Energetics	3	____
ENGR2160	Engineering Graphics	3	____				

5. MAJOR--30 Credits

*ENGR1010	Introduction to Engineering	3	____	ENGR3800	Supply Chain Engineering	3	____
*ENGR2500	Human Factors Engineering	3	____	ENGR4200	Safety and Methods Engineering	3	____
ENGR3200	Value Design	3	____	*ENGR4900	Engineering Practice	3	____
*ENGR3500	Material Handling and Plant Layout	3	____	*ENGR4950	Integrated Engineering Design	3	____
ENGR3700	Manufacturing Planning and Control	3	____	INFS3184	C++ Programming	3	____

6. APPROVED ELECTIVES--12 Credits Minimum (Choose four from the following: ENGR3250, ENGR3600, ENGR3900, ENGR4030, ENGR4650 or ENGR4700)

_____	_____	3	_____	_____	_____	3	_____
_____	_____	3	_____	_____	_____	3	_____

Up to 44 credits apply to this degree program

EFFECTIVE FALL 2009

1. ROBERT MORRIS UNIVERSITY CORE--41 Credits

*CHEM1210	Chemistry I	3	CHEM101	HIST____	History Elective	3	HIST____
*CHEM1215	Chemistry I Lab	1	CHEM101	HUMA1010	Humanities: Art and Music	3	ELIT____
COSK1220	Reading and Writing Strategies	3	WRIT101	INFS1020	Intro to Decision Support Systems	3	CIST100
COSK1221	Argument and Research	3	____	*MATH2070	Calculus w/Analytic Geometry I	4	MATH160
COSK2220	Public Speaking and Persuasion	3	COMM201	PSYC1010	General Psychology	3	PSYC101
COSK2230	Professional Communications	3	____	SOCI1010	Principles of Sociology or	3	SOCI101
ECON1010	Survey of Economics	3	____	SOCI2320	Contemporary Amer Social Probl	3	SOCI210
ELIT____	Literature Elective	3	LITR____				

2. MATH AND SCIENCE--31 Credits

*BIOL1210	Anatomy and Physiology I	3	____	*ENGR2080	Engineering Statistics	3	____
*BIOL1215	Anatomy and Physiology I Lab	1	____	*MATH2170	Calculus with Analytic Geometry II	4	MATH161
	One set (4) credits from the following:			*MATH3090	Calculus with Analytic Geometry III	4	____
*BIOL1220	Anatomy and Physiology II	3	CHEM102	MATH3420	Differential Equations	3	____
*BIOL1225	Anatomy and Physiology II Lab	1	CHEM102	*PHYS1210	Physics I	3	PHYS101
	or *CHEM2210 Chemistry II			*PHYS1215	Physics I Lab	1	PHYS101
	and *CHEM2215 Chemistry II Lab			PHYS2210	Physics II	3	PHYS102
				PHYS2215	Physics II Lab	1	PHYS102

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	3	____
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 Biomedical	4	____
*ENGR2510	Biomedical Engineering Principles	3	____		Engineering Devices and Systems		
*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: ENGR4030, ENGR4170, ENGR4510 and ENGR4801

_____ 3____

Up to 48 credits apply to this degree program from CCBC

SEMESTER BY SEMESTER BREAKDOWN OF COURSE EQUIVALENTS

CCBC COURSES		RMU EQUIVALENT	
CRSE NO	COURSE TITLE	CRSE NO	COURSE TITLE
First Semester			
CHEM101	General Chemistry I	CHEM1210	Chemistry I and Lab (CHEM1215)
CIST100	Intro to Information Technology	INFS1020	Intro to Decision Support Systems
MATH130	College Algebra or MAT115 Statistics	MATH1010	College Mathematics (Not Applicable)
WRIT101	English Composition I	COSK1220	Reading/Writing Strategies
PSYC101	General Psych (Social Science Elective)	PSYC1010	General Psychology
Second Semester			
COMM201	Public Speaking	COSK2220	Public Speaking
CHEM102	General Chemistry II	CHEM2210	Chemistry II and Lab (CHEM2215) (Applied to Biomedical Concentr only)
WRIT102	English Composition II	ELIT_____	Literature Elective for HUMA1010
MATH155	Pre-Calculus	MATH1020	Pre-Calculus (Not Applicable)
Third Semester			
MATH160	Calculus I	MATH2070	Analytical Calculus with Geometry I
PHYS101	College Physics I	PHYS1210	Physics I and Lab (PHYS1215)
CIST160	Visual Basic I	INFS2120	Visual Basic I (Not Applicable)
SOCI101	Principles of Sociology or SOCI210 Contemp Amer Soc Problems	SOCI1010	Principles of Sociology or SOCI2320 Contemp Amer Soc Problems
Fourth Semester			
MATH161	Calculus II	MATH2170	Analytical Calculus with Geometry II
PHYS102	College Physics II	PHYS2210	Physics II and Lab (PHYS2215)
PHYS201	Statics		Not Applicable
HIST_____	History/Political Sci Elec (Liberal Arts Elective)	HIST_____	History/Political Science Elective
LITR_____	Literature Elective (Liberal Arts Elec)	ELIT_____	Literature Elective