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 Engineering who plan to enter Robert Morris University (RMU) in a major under the Bachelor of Science degree program majoring in Engineering (Biomedical, Mechanical, Software, or Industrial Concentrations).

Up to 58 credits will be granted to students (pending on concentration selected) 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 | Christopher B. Howard, D. Phil. Date |
| President | President |

**ROBERT MORRIS UNIVERSITY**

**ACADEMIC REQUIREMENTS FOR**
**Bachelor of Science**
**Major: ENGINEERING**
**Biomedical Engineering Concentration**
**Minimum Credits Required - 126**

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

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

| | | |
|---|---|---|
| CHEM1210 | Chemistry I | 3CHEM101 |
| CHEM1215 | Chemistry I Lab | 1CHEM101 |
| COSK1220 | Reading and Writing Strategies | 3WRIT101 |
| COSK1221 | Argument and Research | 3____ |
| COSK2220 | Public Speaking and Persuasion | 3____ |
| COSK2230 | Professional Communications | 3____ |
| ECON1010 | Survey of Economics | 3____ |
| ELIT_____ | Literature Elective | 3LITR210 |
| HIST____ | History Elective** or | 3____ |
| POLS_____ | Political Science Elective** | |
| HUMA1010 | Humanities: Art and Music | 3____ |
| INFS1020 | Intro to Decision Support Systems | 3CIST100 |
| *MATH2070 | Calculus w/Analytic Geometry I | 4MATH160 |
| PSYC1010 | General Psychology | 3PSYC101 |
| SOCI1020 | Contemporary American Social Prob. | 3____ |

**(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700, HIST1800 or POLS1020)**

## 2. MATH AND SCIENCE--31 Credits

| | | |
|---|---|---|
| BIOL1210 | Anatomy and Physiology I | 3____ |
| BIOL1215 | Anatomy and Physiology I Lab | 1____ |
| CHEM2210 | Chemistry II | 3CHEM102 |
| CHEM2215 | Chemistry II Lab | 1CHEM102 |
| ENGR2080 | Engineering Statistics | 3____ |
| MATH2170 | Calculus with Analytic Geometry II | 4MATH161 |
| MATH3090 | Calculus with Analytic Geometry III | 4MATH200 |

Engineering Practice

| | | |
|---|---|---|
| MATH3420 | Differential Equations | 3MATH220 |
| 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____ |
| MARK3100 | Principles of Marketing | 3____ |
| MGMT3100 | Management Theory and Practice | 3____ |

## 4. BASIC ENGINEERING—12 Credits

| | | |
|---|---|---|
| ENGR1610 | Statics and Strength of Materials | 3ENGR150 |
| ENGR2140 | Circuits and Electromagnetics | 3ENGR140 |
| ENGR2160 | Engineering Graphics | 3ENGR2160 |
| ENGR2180 | Engineering Materials | 3____ |

## 5. MAJOR--31 Credits

| | | |
|---|---|---|
| ENGR1010 | Introduction to Engineering | 3ENGR100 |
| *ENGR2100 | Dynamics | 3____ |
| *ENGR2510 | Biomedical Engineering Principles | 3____ |
| *ENGR3110 | Thermodynamics and Energetics | 3____ |
| ENGR3200 | Value Design | 3____ |
| *ENGR3300 | Fluid Mechanics | 3____ |
| *ENGR3510 | Biomechanics | 3____ |
| *ENGR4520 | Design and Manufacturing of Biomedical Engineering Devices and Systems | 4____ |
| *ENGR4900 | Engineering Practice | 3____ |
| *ENGR4950 | Integrated Engineering Design | 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**

_____ 3ENGR130

**IMPORTANT NOTES:**

**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.**

**58 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 - MCEN
Checksheet Code – EB

***Academic Year – 2016-2017***

**ROBERT MORRIS UNIVERSITY**

**ACADEMIC REQUIREMENTS FOR**
**Bachelor of Science**
**Major: ENGINEERING**
**Mechanical Engineering Concentration**
**Minimum Credits Required - 126**

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

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

| | | | | | |
|---|---|---|---|---|---|
| CHEM1210 | Chemistry I | 3CHEM101 | HIST____ | History Elective** or | 3____ |
| CHEM1215 | Chemistry I Lab | 1CHEM101 | POLS_____ | Political Science Elective** | |
| COSK1220 | Reading and Writing Strategies | 3WRIT101 | **(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700, HIST1800 or POLS1020)** | | |
| COSK1221 | Argument and Research | 3____ | HUMA1010 | Humanities: Art and Music | 3____ |
| COSK2220 | Public Speaking and Persuasion | 3____ | 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 | 3LITR210 | SOCI1020 | Contemporary American Social Prob. | 3____ |

## 2. MATH AND SCIENCE--25 Credits

| | | | | | |
|---|---|---|---|---|---|
| ENGR2080 | Engineering Statistics | 3____ | | | |
| MATH2170 | Calc with Analytic Geometry II | 4MATH161 | PHYS1210 | Physics I | 3PHYS202 |
| MATH3090 | Calc with Analytic Geometry III | 4MATH200 | PHYS1215 | Physics I Lab | 1PHYS202 |
| MATH3400 | Linear Algebra w/Applications | 3____ | PHYS2210 | Physics II | 3PHYS203 |
| MATH3420 | Differential Equations | 3MATH220 | 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 | 3ENGR150 | ENGR2160 | Engineering Graphics | 3ENGR120 |
| ENGR2140 | Circuits and Electromagnetics | 3ENGR140 | ENGR2180 | Engineering Materials | 3____ |

## 5. MAJOR--33 Credits

| | | | | | |
|---|---|---|---|---|---|
| ENGR1010 | Introduction to Engineering | 3ENGR100 | | | |
| *ENGR2100 | Dynamics | 3____ | *ENGR4100 | Machine Design | 3____ |
| *ENGR3110 | Thermodynamics and Energetics | 3____ | *ENGR____ | Engineering Elective | 3____ |
| ENGR3200 | Value Design | 3____ | *ENGR4900 | Engineering Practice | 3____ |
| *ENGR3300 | Fluid Mechanics | 3____ | *ENGR4950 | Integrated Engineering Design | 3____ |
| *ENGR3350 | Heat Transfer | 3____ | *INFS2184 | C++ Programming | 3CIST150 |

## 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, ENGR4150 Des. Analysis of Mechanical Systems,ENGR4170 Numerical Methods, ENGR4200 Safety and Methods Engineering, ENGR4400 Device Control, ENGR4700 Robotics and Automation and ENGR4801 Rapid Prototyping and Reverse Engineering)**

| | | | | | |
|---|---|---|---|---|---|
| _____ | | 3ENGR130 | _____ | | 3____ |

**IMPORTANT NOTES:**

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

**57credits 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 - MCEN
Checksheet Code – EH

***Academic Year – 2016-2017***

**ROBERT MORRIS UNIVERSITY**

**ACADEMIC REQUIREMENTS FOR**
**Bachelor of Science**
**Major: ENGINEERING**
**Software Engineering Concentration**
**Minimum Credits Required - 126**

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

## 1. ROBERT MORRIS UNIVERSITY CORE–41 Credits

| | | | | | |
|---|---|---|---|---|---|
| CHEM1210 | Chemistry I | 3CHEM101 | HIST____ | History Elective** or | 3____ |
| CHEM1215 | Chemistry I Lab | 1CHEM101 | POLS_____ | Political Science Elective** | |
| COSK1220 | Reading and Writing Strategies | 3WRIT101 | | | |
| COSK1221 | Argument and Research | 3____ | | | |
| COSK2220 | Public Speaking and Persuasion | 3____ | HUMA1010 | Humanities: Art and Music | 3____ |
| COSK2230 | Professional Communications | 3____ | INFS1020 | Intro to Decision Support Systems | 3CIST100 |
| ECON1010 | Survey of Economics | 3____ | *MATH2070 | Calculus w/Analytic Geometry I | 4MATH160 |
| ELIT_____ | Literature Elective | 3LITR210 | PSYC1010 | General Psychology | 3PSYC101 |
| | | | SOCI1020 | Contemporary American Social Prob. | 3____ |

**(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700 HIST1800 or POLS1020)**

## 2. MATH AND SCIENCE –25 Credits

| | | | | | |
|---|---|---|---|---|---|
| ENGR2080 | Engineering Statistics | 3____ | MATH3420 | Differential Equations | 3MATH220 |
| MATH2170 | Calc with Analytic Geometry II | 4MATH161 | MATH4000 | Discrete Mathematics | 3____ |
| CHEM3090 | Calc with Analytic Geometry III | 4MATH200 | 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—9 Credits

| | | |
|---|---|---|
| ENGR1610 | Statics and Strength of Materials | 3ENGR150 |
| ENGR2140 | Circuits and Electromagnetics | 3ENGR140 |
| ENGR2160 | Engineering Graphics | 3ENGR120 |

## 5. MAJOR –30 Credits

| | | | | | |
|---|---|---|---|---|---|
| ENGR1010 | Introduction to Engineering | 3ENGR100 | *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++ | 3CIST150 |
| *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.**

| | | | | | |
|---|---|---|---|---|---|
| _____ | _____ | 3ENGR130 | _____ | _____ | 3____ |
| _____ | _____ | 3____ | _____ | _____ | 3____ |

**IMPORTANT NOTES:**

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

**57 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 – ENGR
Checksheet Code – EG

***Academic Year – 2016-2017***

**ROBERT MORRIS UNIVERSITY**

**ACADEMIC REQUIREMENTS FOR**
**Bachelor of Science**
**Major: ENGINEERING**
**Industrial Engineering Concentration**
**Minimum Credits Required - 126**

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

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

| | | |
|---|---|---|
| CHEM1210 | Chemistry I | 3CHEM101 |
| CHEM1215 | Chemistry I Lab | 1CHEM101 |
| COSK1220 | Reading and Writing Strategies | 3WRIT101 |
| COSK1221 | Argument and Research | 3____ |
| COSK2220 | Public Speaking and Persuasion | 3____ |
| COSK2230 | Professional Communications | 3____ |
| ECON1010 | Survey of Economics | 3____ |
| ELIT_____ | Literature Elective | 3LITR210 |
| HIST____ | History Elective** or | 3____ |
| POLS_____ | Political Science Elective** | |

**(**Choose from: HIST1100, HIST1200, HIST1500, HIST1600, HIST1700 HIST1800 or POLS1020)**

| | | |
|---|---|---|
| HUMA1010 | Humanities: Art and Music | 3____ |
| INFS1020 | Intro to Decision Support Systems | 3CIST100 |
| *MATH2070 | Calculus w/Analytic Geometry I | 4MATH160 |
| PSYC1010 | General Psychology | 3PSYC101 |
| SOCI1020 | Contemporary American Social Prob. | 3____ |

## 2. MATH AND SCIENCE--25 Credits

| | | |
|---|---|---|
| ENGR2080 | Engineering Statistics | 3____ |
| MATH2170 | Calc with Analytic Geometry II | 4MATH161 |
| MATH3090 | Calc with Analytic Geometry III | 4MATH200 |
| MATH3400 | Linear Algebra with Applications | 3____ |
| MATH3420 | Differential Equations | 3MATH220 |
| 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____ |
| MARK3100 | Principles of Marketing | 3____ |
| MGMT3100 | Management Theory and Practice | 3____ |

## 4. BASIC ENGINEERING--9 Credits

| | | |
|---|---|---|
| ENGR1610 | Statics and Strength of Materials | 3ENGR150 |
| ENGR2160 | Engineering Graphics | 3ENGR120 |
| ENGR2180 | Engineering Materials | 3____ |

## 5. MAJOR--30 Credits

| | | |
|---|---|---|
| ENGR1010 | Introduction to Engineering | 3ENGR100 |
| ENGR2500 | Human Factors Engineering | 3____ |
| ENGR3200 | Value Design | 3____ |
| ENGR3500 | Material Handling and Plant Layout | 3____ |
| ENGR3700 | Manufacturing Planning and Control | 3____ |
| ENGR4200 | Safety and Methods Engineering | 3____ |
| *ENGR4900 | Engineering Practice | 3____ |
| *ENGR4950 | Integrated Engineering Design | 3____ |
| ENGR____ | Engineering Elective | 3ENGR140 |
| INFS2184 | C++ Programming | 3CIST150 |

## 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)**

| | | | | | |
|---|---|---|---|---|---|
| _____ | _____ | 3ENGR130 | _____ | _____ | **3____** |
| _____ | _____ | 3____ | _____ | _____ | **3____** |

**IMPORTANT NOTES:**

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

**57 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 - ENGR
Checksheet Code – ED

***Academic Year – 2016-2017***

| 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 **(CIST106)** | INFS1020 | Intro to Decision Support Systems |
| MATH160 | Calculus I | MATH2070 | Calculus w/Analytic Geom I |
| ENGR100 | Introduction to Engineering | ENGR1010 | Introduction to Engineering |
| ENGR130 | Robotics | ENGR1999 | Engineering Elective |
| | | | |
| Second Semester | | | |
| CHEM102 | General Chemistry II or TAOC Category Five (BUSM, HIST, POLS) *** | CHEM2210 | Chemistry II and Lab (CHEM2215) **(Not applied to Mechanical, Industrial or Software)** |
| ENGR120 | CAD: Computer Aided Drafting | ENGR2160 | Engineering Graphics |
| WRIT101 | English Composition | COSK1220 | Reading & Writing Strategies |
| MATH161 | Calculus II | MATH2170 | Calculus w/Analytic Geom II |
| ENGR140 | Electrical Circuits | ENGR2140 | Circuits and Electromagnetics |
| | | | |
| Third Semester | | | |
| CIST150 | C++ Programming or TAOC Category Five (BUSM, HIST, POLS) ** | INFS2184 | C++ Programming **(Not applied to Biomedical)** |
| MATH200 | Calculus III | MATH3090 | Calculus w/Analytic Geom III |
| PHYS202 | University Physics I | PHYS1210 | Physics I and Lab (PHYS1215) |
| LITR210 | Concepts of Literature | ELIT1999 | Literature Elective |
| | | | |
| Fourth Semester | | | |
| PSYC101 | General Psychology or (SOCI101) | PYSC1010 | General Psychology or (SOCI1010) |
| PHYS203 | University Physics II | PHYS2210 | Physics II and Lab (PHYS2215) |
| ENGR150 | Statics and Strength of Materials | ENGR1610 | Statics & Strength of Materls |
| MATH220 | Differential Equations | MATH3420 | Differential Equations |

**** Biomedical Engineering Concentration**:

Students are encouraged to take the TAOC Category Five option (BUSM, HIST, POLS) as an alternative to CIST150 C++ Programming which does not apply to this program.

***** Industrial, Mechanical or Software Engineering Concentration(s)**:

Students are encouraged to take the TAOC Category Five option (BUSM, HIST, POLS) as an alternative to CHEM102 General Chemistry II which does not apply to these programs .

Students are also encouraged to take up to 6 credits from the following selection from which they have not already fulfilled.

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

Maximum of 69 credits can transfer