

COMPUTER ENGINEERING, ENGINEERING SCIENCE AS: 409

Total Credits: 66

Catalog Editions: 2012-13 through 2016-17

Program Description

This curriculum is designed to provide the first two years of a four-year program leading to the award of a BS in engineering. A student planning to transfer to any baccalaureate degree granting institution should follow the appropriate track listed below in consultation with an engineering advisor. The student should also visit the Montgomery College Engineering Advising website www.montgomerycollege.edu/engineeringadvising for up-to-date comprehensive information on transfer requirements for all universities and colleges with which we have an articulated transfer program.

Completion of all requirements for any track in engineering science will lead to the award of the AS in engineering science.

This track will prepare students to transfer to a four-year university with a major in aerospace engineering. Specific requirements in colleges vary, and the student preparing for a particular institution may, with approval, change the sequence listed below; this sequence of courses is articulated with the aerospace engineering program at the University of Maryland, College Park. A suggested course sequence for full-time students follows; all students should consult an engineering adviser. The student should also visit the Montgomery College Engineering Advising website at www.montgomerycollege.edu/engineeringadvising for up-to-date comprehensive information.

Program Outcomes

Upon completion of this program a student will be able to:

- Identify, formulate, and solve basic physics and engineering problems in programming and digital circuits.
- Design simple systems using computing theory and numerical methods in the area of Computer Engineering.
- Use appropriate computer application software in computer engineering.

Program Advising

Rockville

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For more information please visit:

www.montgomerycollege.edu/engineeringadvising

2016-2017

Program Advising Guide

An Academic Reference Tool for Students

COMPUTER ENGINEERING, ENGINEERING SCIENCE AS: 409

Suggested Course Sequence

A suggested course sequence for full-time students follows. All students should review this advising sheet and consult an advisor. Visit www.montgomerycollege.edu/engineeringadvising for more information.

First Semester

CHEM 135 - General Chemistry for Engineers

4 semester hours (NSLD)

OR

CHEM 132 - Principles of Chemistry II

4 semester hours

ENGL 102 - Critical Reading, Writing, and Research

3 semester hours (ENGF)

ENES 100 - Introduction to Engineering Design

3 semester hours

MATH 181 - Calculus I

4 semester hours (MATF)

Health foundation

1 semester hour (HLTF)

Second Semester

CMSC 203 - Computer Science I

4 semester hours

MATH 182 - Calculus II

4 semester hours

PHYS 161 - General Physics I:

Mechanics and Heat

3 semester hours (NSND)

Arts distribution

3 semester hours (ARTD)

Behavioral and social sciences distribution

3 semester hours (BSSD) **

Third Semester

CMSC 204 - Computer Science II

4 semester hours

ENEE 244 - Digital Logic Design

3 semester hours

MATH 282 - Differential Equations

3 semester hours

PHYS 262 - General Physics II:

Electricity and Magnetism

4 semester hours (NSLD)

Humanities distribution

3 semester hours (HUMD)

Fourth Semester

CMSC 207 - Introduction to Discrete Structures

4 semester hours

Behavioral and social sciences distribution

3 semester hours (BSSD) **

ENEE 207 - Electric Circuits

4 semester hours

ENEE 222 - Elements of Discrete

Signal Analysis

4 semester hours

ENEE 245 - Digital Circuits and

Systems Laboratory

2 semester hours

Total Credit Hours: 66

** Behavioral and Social Science Distribution (BSSD) courses must come from different disciplines.

Advising Notes

- Most engineering students will start at MC missing one or more pre-requisites for CHEM 131, CHEM 132, CHEM 135, ENGL 102, ENES 100, MATH 181, or CMSC 203.
- The appropriate initial chemistry courses will be determined by the student's score on the Chemistry Placement Exam, mathematics level, AP/IB credits, or transfer credits. Possible courses include CHEM 099, CHEM 131, CHEM 132, or CHEM 135. Either CHEM 132 or CHEM 135 satisfies the required chemistry credit for UMCP. CHEM 131 -CHEM 132 satisfies the required chemistry credit for UMBC, but CHEM 135 does not.
- The pre-requisite for ENGL 102 is ENGL 101 or ENGL 101A. English course placement is determined by the Accuplacer English/Reading Test.
- The co-requisite for ENES 100 is MATH 165 or higher.
- The pre-requisite for MATH 181 is MATH 165 (Precalculus). Mathematics initial course placement will be determined by the Accuplacer Math Test, AP/IB credit, or transfer credits.

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COMPUTER ENGINEERING A.S.: 409

Total Credits: 65
Catalog Edition 16-17

Name: Date: ID #:

GENERAL EDUCATION: FOUNDATION COURSES	Course	Hours	Grade
English Foundation	EN 102/ ENGL 102	3	
Math Foundation	MA 181/ MATH 181	4	

GENERAL EDUCATION: DISTRIBUTION COURSES	Course	Hours	Grade
Arts Distribution (ARTD)			
Humanities Distribution (HUMD)			
Behavioral & Social Sciences Distribution (BSSD) **		3	
Behavioral & Social Sciences Distribution (BSSD) **		3	
Natural Sciences Distribution without Lab (NSND)	PH 161/ PHYS 161	3	
Natural Sciences Distribution with Lab (NSLD)	PH 262/ PHYS 262	4	
General Education Elective (GEEL)	ES 100/ ENES 100	3	

PROGRAM REQUIREMENTS	Course	Hours	Grade
(only if needed for EN 102/ENGL102)	EN 101/ ENGL 101	(3)	
(only if needed for MA 181/MATH 181)	MA 180/ MATH 165	(4)	
CH 135/ CHEM 135 or CH 102/ CHEM 132		4	
	CS 103/ CMSC 203	4	
	CS 204/ CMSC 204	4	
	CS 256/ CMSC 207	4	
	EE 207/ ENEE 207	4	
	EE 222/ ENEE 222	4	
	EE 244/ ENEE 244	3	
	EE 245/ ENEE 245	2	
	MA 182/ MATH 182	4	
	MA 282/ MATH 282	3	

Has student completed the Global Perspectives requirement? Yes No

Overall GPA of 2.0 is required to graduate

Global Perspectives Course:

Total Credits:

[Engineering and Computer Science Advising Web Page](#)

** The two behavioral and social sciences courses MUST be in different disciplines

Last Modified: July 2016

Advising Worksheet Contact: [Anthony Solano](#)

See an [advisor](#) to submit an [Application for Graduation](#) the semester BEFORE you intend to graduate.

This UNOFFICIAL document is for planning purposes ONLY and completion does not guarantee graduation.

Transfer Opportunities

Montgomery College has partnerships with multiple four-year institutions and the tools to help you transfer. To learn more please visit: <http://cms.montgomerycollege.edu/EDU/Plain.aspx?id=62341> or artsys.usmd.edu

Get Involved at MC!

Employers and Transfer Institutions are looking for experience outside the classroom.

Engineering Student Professional Groups

<https://cms.montgomerycollege.edu/engorgs.aspx>

MC Student Clubs and Organizations

<http://cms.montgomerycollege.edu/edu/plain.aspx?id=2439>

Related Careers

Some require a Bachelor's degree.

*[Energy Auditor](#), [Security Management Specialist](#),
[Wind Energy Project Manager](#), [Compliance Manager](#), [Computer Systems Analyst](#)*

Career Services

<http://www.montgomerycollege.edu/career>

Career Coach

A valuable online search tool that will give you the opportunity to explore hundreds of potential careers or job possibilities in Maryland and the Washington D.C. metropolitan area.

Get started today on your road to a new future and give it a try. Visit the website listed below:

<https://montgomerycollege.emsicareercoach.com>

Advising Notes (continued)

- The pre-requisites for CMSC 203 are MATH 181 and CMSC 140 or consent of instructor if you have structured programming experience.
- MC courses CMSC 203 and CMSC 204 do not transfer to UMCP as equivalent to CMSC 131 and CMSC 132. Students planning to transfer to UMCP may take an assessment test to place out of these courses or take these courses through MTAP prior to transfer.
- UMCP's ENAE 200 (1) and 283 (3) for which MC has no equivalents, remain to be taken at UMCP. Students need to take ENAE 283 in order to achieve full junior standing upon transfer. This must be done in summer term prior to fall term transfer.
- CMSC 140 (3) and ENES 240 (3) combined can be equivalent to ENAE 202 (3).

Notes:



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