

ENGINEERING SCIENCE OPTION -N082

A.S. in Engineering Studies

Contact: Ileana Vasu, 413-552-2438; ivasu@hcc.edu

COURSE TITLE	COURSE NUMBER	PREREQUISITES	CREDITS	SEMESTER TAKEN	GRADE
GENERAL EDUCATION REQUIREMENTS			20		
Language and Literature I	ENG 101	Appropriate score on Placement Tests, or C- or better in ENG 097 and ENG 098, or C- or better in ENG 096 or ENG 099	3		
Language and Literature II	ENG 102	ENG 101	3		
Social Science Elective (B)			3		
Social Science Elective (B)			3		
Physics for Engineers and Science Majors I (D) (Fall)	PHS 111	MTH 113, previously or concurrently	4		
Physics for Engineers and Science Majors II (D) (Spring)	PHS 112	MTH 114 previously or concurrently, and PHS 111	4		
PROGRAM REQUIREMENTS			19		
Intro to Engineering with JAVA (Spring)	EGR 118	MTH 104 or adequate score on the Mathematics Placement Examination	4		
Intro to Engineering with Computer Applications (Fall)	EGR 117	MTH 104 or adequate score on the Mathematics Placement Examination	3		
Calculus I	MTH 113	MTH 108 or adequate score on the Mathematics Placement Exam	4		
Calculus II	MTH 114	MTH 113	4		
Calculus III	MTH 213	MTH 114	4		
PROGRAM ELECTIVES			23		
<i>Select 6 from the following courses. Sufficient to complete 60 credit graduation requirement</i>					
Linear Algebra (Fall)	MTH 205	MTH 112 or MTH 114, previously or concurrently	3		
Differential Equations (Spring)	MTH 214	MTH 212 or MTH 213 previously or concurrently	3		
Discrete Mathematical Structures (Spring)	MTH 230	MTH 111 or MTH 113	3		
Physics for Engineering and Science Majors III (Spring)	PHS 201	PHS 112 Co-requisite: MTH 213 previously or concurrently	4		
Principles of Chemistry I	CHM 113		4		
Principles of Chemistry II	CHM 114	CHM 113 or equivalent. High School Algebra I or equivalent recommended.	4		
Inorganic Chemistry I	CHM 121	High School Algebra I or equivalent. High School Chemistry recommended.	4		
Inorganic Chemistry II	CHM 124	CHM 113 or CHM 121	4		
Organic Chemistry I	CHM 221	CHM 124, 114, or 102 with permission of instructor	4		
Organic Chemistry II	CHM 222	CHM 221 or one previous semester of organic chemistry	4		
Organic Chemistry IIA	CHM 224	CHM 221(D) or equivalent	4		
Any EGR Course			3-4		
Introduction to Cell Functions	BIO 100	Note: Credit cannot be received for more than one of these - Bio 100, Bio 103	4		
Biology Today I	BIO 103	Note: Credit cannot be received for more than one of these - BIO 100, 103	4		
Introduction to Biotechnology	BIO 106	BIO 100 or BIO 103 or BIO 110 or BIO 120 and MTH 095 eligible.	4		
Human Biology	BIO 111		4		
Microbiology	BIO 229	A grade of C or better in BIO 100 or 103, or a grade of C- or better in VET 133	4		
Human Anatomy and Physiology I	BIO 217	A "C" grade or better in BIO 100 (including lab) or BIO 103 or a passing grade on the challenge exam.	4		
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PROGRAM OVERVIEW

Provides the first two years of a traditional engineering program, in which the student chooses a particular engineering field: Mechanical/Civil/Industrial, Electrical, or Computer Systems.

We advise that students start their mathematics courses as soon as they enter the program.

This program offers an alternative Engineering option to those students who are interested in Engineering, not committed to one of the traditional Engineering fields.

Students interested in transferring to UMass / WNEC are suggested to enroll in Engineering Option N079

All students are encouraged to check with their transfer institution as to what their requirements are for their particular area of interest so they do not have to take more courses than are needed.

ENGINEERING SCIENCE OPTION -N082 (Continued)

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COURSE TITLE	COURSE NUMBER	PREREQUISITES	CREDITS	SEMESTER TAKEN	GRADE
PROGRAM ELECTIVES (Continued)					
Human Anatomy and Physiology II	BIO 218	BIO 217	4		
Genetics	BIO 243	A grade of C or better in one of the following: BIO 100, 103, 110, 112, 120 or 225	4		
Principles of Environmental Science	ENV 120		4		
Principles of Environmental Science	ENV 140		4		
Principles of Environmental Site Assessment	ENV 230	ENV 120, ENV 140, ENV 137 concurrently	3		
Aquatic Ecology and Pollution	ENV 253	One semester of environmental science or biology	4		
Robotics: Explorations in Construction and Design	EGR 110 / SEM 110		4		
Total Credits			62		