Engineering

Associate in Science

DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This program is designed to enhance students' interest in the math and science fields by pursuing a career in engineering. The program's core curriculum emphasizes mathematics, physics, and chemistry -- the foundation for all engineering projects. The core curriculum is complemented with courses in engineering design, engineering mechanics, and engineering physics.

Upon successful completion, the Associate in Science Degree in Engineering is awarded.

CAREER PATHWAY

Students are advised to select career pathway electives after careful consideration of their career choices in their second year. Some electives may or may not transfer to an engineering program at some four-year institutions.

PROGRAM FOOTNOTE

Career Pathway Electives:
MN 118 Ethics for Engineers and Technologists
EC 201 Principles of Macroeconomics (fall),
EC 202 Principles of Microeconomics (spring)
(recommended for transferring to UMass Lowell),
BI 110 Principles of Biology I (fall) (recommended for transfer to Northeastern University Mechanical Engineering program)

Career Pathway Electives:
CS 120 Programming I (fall), CS 200 Programming II (spring), or Computer Science (CS) courses higher than CS 110 (for transfer to UMass Lowell for Electrical Engineering/Computer Science double major program)

Humanities Electives:
Art, Communication, English (EN 103 or higher), ESL (ES 100 or higher; up to 6 credits), Film, Foreign Language, Humanities, Literature, Music, Oral Communication, Philosophy, Photography, Sign Language, Theater Arts

Social Science Electives:
Anthropology, Economics, Geography, Government, History, Law, Psychology, Sociology

Quantitative skills are a MassBay graduation competency for associate degree programs. Prior to graduation, students must demonstrate this competency by completing a 100-level math course (not MAC); or placing into a 200-level mathematics course.

Students are advised to check transfer requirements at four-year institutions. Some Institutions require 2 (two) Chemistry Courses for specific engineering programs. CH 110 and CH 120 sequence is recommended in such cases.

COURSE	COURSE TITLE	CREDITS
First Year	*Semester 1*	
PY 103	Engineering Physics I w/ Lab	4
EN 101	English Composition I	3
MA 200	Calculus I	4
MN 130	Engineering Design with CAD I	4
	credits:	15
First Year	*Semester 2*	
PY 104	Engineering Physics II w/ Lab	4
MN 125	Engineering Computation with Application Software	4
EN 102	English Composition II	3
MA 201	Calculus II	4
CT 100	Critical Thinking	3
	credits:	18
Second Year	*Semester 1*	
CH 110	Principles of Chemistry I w/ Lab	4
	or	
CH 140	Chemistry for Engineers w/ Lab	4
CS 110	Introduction to Computer Science	4
MA 202	Calculus III	4
MN 203	Engineering Mechanics: Statics	3
	Social Science Elective	3
	credits:	18
Second Year	*Semester 2*	
MA 211	Differential Equations	4
MN 204	Engineering Mechanics: Dynamics	3
MN 210	Strength of Materials I	4
	or	
	Career Pathway Elective	3/4
	Humanities Elective	3
	Humanities Elective	3
	or	
	Social Science Elective	3
	credits:	16/17
	Total Credits:	**67/68**

This program qualifies as an Alternative Transfer Agreement (MassTransfer) with select public institutions in Massachusetts. For more information, visit www.mass.edu/masstransfer.