


# Mechanical Engineering

## Associate in Science

 MassBay courses are offered days, evenings, weekends, and online. View the complete list of online courses at <https://mbccweb.massbay.edu/online/>.

Check current course availability at [www.massbay.edu/courses](http://www.massbay.edu/courses)

### DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Mechanical engineers are active in all engineering functions of a product including creative design, research and development, production and management. Energy, airplanes, automobiles, space vehicles, machinery, earth-moving equipment and medical hardware are but a few examples of the infinite number of products that mechanical engineers have produced through their use of the basic laws of physical sciences.

Upon successful completion, the Associate in Science Degree in Mechanical 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 not transfer to engineering programs at some four-year institutions.

#### 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, Critical Thinking, English (EN 103 or higher) Film,  
 Foreign Language, Humanities, Literature, Music, Oral Communication.  
 Philosophy, Photography, Sign Language, Theater Arts

#### Social Science Electives:

Anthropology, Economics, Geography, Government, History, Law and  
 the Media (LA 200), Law and Society (LA 230), Psychology, Sociology

#### PROGRAM FOOTNOTES

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
<i>First Year Semester 1</i>		
CT 100	Critical Thinking	3
PY 103	Engineering Physics I w/ Lab	4
EN 101	Freshman English I	3
MA 200	Calculus I	4
MN 130	Engineering Design with CAD I	4
		<b>credits:</b>
		18
<i>First Year Semester 2</i>		
MN 125	Engineering Computation with Application Software	4
PY 104	Engineering Physics II w/ Lab	4
EN 102	Freshman English II	3
		Humanities Elective
		3
MA 201	Calculus II	4
		<b>credits:</b>
		18
<i>Second Year Semester 1</i>		
CH 110	Principles of Chemistry w/ Lab	4
		or
CH 140	Chemistry for Engineers w/ Lab	4
MA 202	Calculus III	4
CS 110	Introduction to Computer Science	4
MN 203	Engineering Mechanics: Statics	3
		Social Science Elective
		3
		<b>credits:</b>
		18
<i>Second Year Semester 2</i>		
MN 204	Engineering Mechanics: Dynamics	3
MA 211	Differential Equations	4
MN 210	Strength of Materials I	4
		Career Pathway Elective
		3/4
		Humanities Elective
		3
		or
		Social Science Elective
		3
		<b>credits:</b>
		17/18
		<b>Total Credits:</b>
		<b>71/72</b>

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

Competency in mathematics is a MassBay graduation requirement. Prior to graduation, students must demonstrate competency at 100-level math. This may be accomplished by an appropriate placement test score or completion of any 100-level mathematics course or higher, except mathematics courses with a MAC prefix.