Mechanical and Industrial Engineering

Associate in Science

DIVISION OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

This comprehensive program provides students with an overview of the mechanical and industrial engineering fields. Students following the program intend to transfer into the following programs: Mechanical Engineering, Industrial Engineering, or Manufacturing Engineering.

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

CAREER PATHWAY

Program Electives for Mechanical Engineering:
MN 220 Thermodynamics I*** (Worcester Polytechnic Institute prefers students take this course at MassBay)
MN 125 Engineering Computation with Application Software (Wentworth Institute of Technology, Northeastern University)

Program Electives for Industrial Engineering:
MN 125 Engineering Computation with Application Software (Wentworth Institute of Technology, Northeastern University)
EE 120 Digital Electronics* (UMass Lowell)
MA 210 Introduction to Linear Algebra (Northeastern University)

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

PROGRAM FOOTNOTES

Students are advised to check transfer requirements at four-year institutions.

- Students planning to transfer to Northeastern University are encouraged to take MA 210 Introduction to Linear Algebra
- CO 131 Oral Communications requirement can be substituted for a Humanities elective
- EC 201 Principles of Macroeconomics requirement can be substituted for EC 202 Principles of Microeconomics or another Social Science elective
- PH 102 Ethics requirement can be substituted for a Humanities elective
- CT 100 Critical Thinking requirement can be fulfilled by passing the Critical Thinking Challenge Exam

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
CO 131 º	Oral Communication	3
ET 111	Introduction to Coding, Robotics, Engineering, and Technology (iCREAT)	3
MN 100	Career Readiness and ePortfolio	1
	credits:	18
First Year	*Semester 2*	
MN 130	Engineering Design with CAD I	4
EN 102	English Composition II	3
MA 201	Calculus II	4
PY 104	Engineering Physics II w/ Lab	4
	credits:	15
Second Year	*Semester 1*	
MA 202	Calculus III	4
	Program Elective	4
MN 203*	Engineering Mechanics: Statics	3
CT 100 º	Critical Thinking	3
MN 131A	Introduction to Manufacturing	1
EC 201 º	Principles of Macroeconomics	3
	credits:	18
Second Year	*Semester 2*	
MA 211	Differential Equations	4
MN 210**	Strength of Materials I	4
PH 102 º	Ethics	3
MN 204**	Engineering Mechanics: Dynamics	3
CH 110	Principles of Chemistry I	4
	credits:	18
	Total Credits:	**69**

*Fall only course
**Spring only course
***Summer only course

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.

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

AY '26 -'27