

# Engineering Design

## Associate in Science

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

Designers translate the ideas, sketches, and specifications of engineers into workable plans and models. Students develop skills and techniques by using industry-relevant tools, equipment, and software, including AutoDesk AutoCAD® and Revit®, PTC Creo®, SolidWorks®, and MS Project®. Instruction is given in mechanical, electrical, electro-mechanical, architectural, and multimedia design. Students will use the acquired computer and manual drafting skills from various courses to complete projects in the areas of their interest. Graduates may seek positions as detailers/designers/schedulers.

Upon successful completion, the Associate in Science Degree in [Engineering Design](#) is awarded.

#### **PROGRAM FOOTNOTES**

##### **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 Electives:**

IN 102 Architectural Drawing for Interior Design, MN 241 Architectural Design, MN 251 Electro-Mechanical Design, MN 271 Project Design, MN 272 Designing Plastic Parts, and/or courses in Biology, Computer Science, (except CS 100), Chemistry, Electronics, Engineering, Environmental Science, Mathematics, Mechanical Engineering, Physics

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](http://www.mass.edu/masstransfer).

COURSE	COURSE TITLE	CREDITS
<i>First Year Semester 1</i>		
EN 101	English Composition I	3
MN 101	Introduction to Computer Aided Design and Drafting	4
MN 130	Engineering Design with CAD I	4
MA 104	Pre-Calculus Mathematics	4
<b>credits:</b>		15
<i>First Year Semester 2</i>		
CS 110	Introduction to Computer Science	4
CT 100	Critical Thinking	3
EN 102	English Composition II	3
MN 135**	Engineering Design with CAD II	4
MN 141*	Architecture & Civil CAD Applications	4
<b>credits:</b>		18
<i>Second Year Semester 1</i>		
MN 121*	Mechanical Detailing	4
	Humanities Elective	3
	Program Elective	4
	Social Science Elective	3
<b>credits:</b>		14
<i>Second Year Semester 2</i>		
MN 261**	Animation Materials 3D Molding	4
MN 140**	Project Management	4
	Program Elective	3/4
	Humanities Elective	3
<b>or</b>		
	Social Science Elective	3
<b>credits:</b>		14/15
<b>Total Credits:</b>		<b>61/62</b>

\* Fall only course

\*\*Spring only course