

# INDUSTRIAL DESIGN ENGINEERING - LEVEL III (CERTIFICATE T0328)

WELD 30	Metal Sculpture	2
WELD 40	Introduction to Welding	2

## Program Learning Outcomes

Review Student Learning Outcomes (SLOs) (<http://www.mtsac.edu/instruction/outcomes/sloinfo.html>) for this program.

## Technology and Health Division

### Certificate T0328

This program is designed to prepare the student for a career in a wide range of industries including product and industrial design firms and fabrication and manufacturing companies. Students are introduced to product development from design through prototyping and fabrication for manufacturing. Portfolio or prototype development is required on each of the semester levels. In the Level Three certificate, this will culminate in a final "senior project," which is a portfolio that includes two and three-dimensional design, documentation (accountability measures), presentation, and fabrication. This project will demonstrate the student's mastery of the concepts and methodologies learned during the program.

## Required Courses

Course Prefix	Course Name	Units
	Completion of the Industrial Design Engineering - Level I coursework	18
	PLUS	
	Completion of the Industrial Design Engineering - Level II coursework	9
	PLUS	
	Completion of the Industrial Design Engineering - Level III coursework	9
<b>Total Units</b>		<b>36</b>

Course Prefix	Course Name	Units
<b>Industrial Design Engineering - Level I Coursework</b>		
IDE 110	Design Foundation-Visual Literacy	3
IDE 120	Introduction to CAD	3
IDE 130	Introduction to Shop Processes	3
IDE 150	Design Foundation II	3
IDE 160	Intermediate CAD	3
IDE 170	Introduction to Prototyping	3
<b>Total Units</b>		<b>18</b>

Course Prefix	Course Name	Units
<b>Industrial Design Engineering - Level II Coursework</b>		
IDE 210	Advanced Media	3
IDE 220	Advanced CAD	3
IDE 230	Introduction to Mechanical Principles	3
<b>Total Units</b>		<b>9</b>

Course Prefix	Course Name	Units
<b>Industrial Design Engineering - Level III Coursework</b>		
IDE 250	Product Design and Viability	6
IDE 270	Manufacturing Processes and Materials	3
<b>Total Units</b>		<b>9</b>

## Recommended Electives

Course Prefix	Course Name	Units
ELEC 50A	Electronic Circuits - Direct Current (DC)	4
ELEC 81	Laboratory Studies in Electronics Technology	1-2
MATH 51	Elementary Algebra	4
PHYS 1	Physics	4