



Computer Automated Design A.A.S.

Curriculum Code: 1801

Effective: Fall 2019 – Summer 2024

Description

This program prepares individuals to apply technical skills and knowledge of computer software installed on a variety of stationary devices and mobile devices to the CAD design process leading through to output of product manufacturing. Automation design brings together engineering. Graphics design systems across the production cycle and links communication to the industry 4.0 concept. Students receive detailed instruction on building virtual representations of products by employing 3D parametric Solid Modeling found in the automotive, aerospace, medical, nuclear, special machinery, and defense industries. Computer Aided Design software is also applied to staging a product through virtual simulation and analysis of computer numerical control, computer programming of robotic systems, metrology quality control actions. Solid models are used in assemblies and drawings to convey material properties, dimensions and tolerances, execution of engineering change orders through until tool production, and additive manufacturing, and 3D printing.

Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

General Education Core Courses, Recommended Choices

(For the full list of options, see [General Education Core](#))

- Communication – *Select one*
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Global Perspective and Diversity – *Select one*
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Math – *Select one*
MATH 115, Technical Math II, 4 credits / 4 billing hours

- Science
Program of Study Required Courses will meet this requirement

- Writing – *Select one*
ENGL 124, Technical Writing, 3 credits / 3 billing hours

Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METD 111	Mechanical CAD Drafting II	4 / 6
METD 130	Geometric Dimension/ Tolerance	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METD 220	Basic Unigraphics/NX	4 / 6
METD 221	Advanced Unigraphics/NX	4 / 6
METD 250	Detailing Assembly Drawings	4 / 6
METD 265	Basic CAD FEA Simulation	4 / 6
METM 100	Manufacturing Processes	3 / 4.5
METM 108	Machine Tool Operations	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METM 195	Quality/Metrology/ Inspection	2 / 3
METM 220	Basic Mastercam	4 / 6
METM 240	Basic NX Machining	4 / 5
METS 115	Intro to Mechanical Systems	4 / 6

Total Credit Hours

69 credits / 94.5 billing hours

Recommended Course Sequence

Semester I	Semester II
Math Core	Writing Core
METD 110	METD 111
METD 150	METD 130
METM 100	METD 220
METM 108	METS 115

Semester III	Semester IV
Communication Core	Global Perspectives and Diversity Core
METD 221	METD 265
METD 250	METM 190
METM 195	METM 240
METM 220	