LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 1801 (Effective Fall 2018 – Summer 2023)

Computer Automated Design A.A.S. Pathway

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.

For More 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.

Semester I	Course Title	Prerequisites	Credit/Billing Hours
Math Core Area - *Select 1*			
MATH 115	Technical Math II	(Minimum 2.0 in MATH 114 within 2 years or Math Level 5 and 5 within 2 years) and Reading Level 5	4 / 4
Program of Study Requirements			
METD 110	Mechanical CAD Drafting I	Minimum 2.0 in (METD 100 or Mechanical Drafting Placement Test 80%) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
METD 150	Industrial Blueprint Reading	None	3 / 3
METM 100	Manufacturing Processes	Reading Level 3 and Writing Level 4	3 / 4.5
METM 108	Machine Tool Operations	Reading Level 3 and Writing Level 4 and Math Level 4	4 / 6
		Credits	**18 / 23.5**

Semester II	Course Title	Prerequisites	Credit Hours
Writing Core Area - *Select 1*			
ENGL 124	Technical Writing	Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)	3 / 3
Program of Study Requirements			
METD 111	Mechanical CAD Drafting II	Minimum 2.0 in METD 110 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METD 130	Geometric Dimension/ Tolerance	Minimum 2.0 in (METD 100 or Mechanical Drafting Placement Test 80%) and Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6
METD 220	Basic Unigraphics/NX	Minimum 2.0 in METD 110 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METS 115	Intro to Mechanical Systems	Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
		Credits	**19 / 27**
Semester III	**Course Title**	**Prerequisites**	**Credit Hours**
Communication Core Area - *Select 1*			
COMM 110	Oral Comm in the Workplace	Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)	3 / 3
Science Core Area - *Select 1*			
METM 190	Metallurgy and Heat Treatment	Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	4 / 6

Program of Study Requirements			
METD 221	Advanced Unigraphics/NX	Minimum 2.0 in METD 220 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METM 195	Quality/Metrology/ Inspection	Minimum 2.0 in (METD 130 and (METM 108 or METM 110)) and Reading Level 4 and Writing Level 4 and Math Level 4	2 / 3
METM 220	Basic Mastercam	Minimum 2.0 in (METM 108 or METM 110) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
		Credits	**17 / 24**
Semester IV	**Course Title**	**Prerequisites**	**Credit Hours**
Global Perspectives and Diversity Core Area - *Select 1*			
MGTM 234	Diversity in the Workplace	Reading Level 5 and Writing Level 6	3 / 3
Program of Study Requirements			
METD 250	Detailing Assembly Drawings	Minimum 2.0 in METD 130 and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METD 265	Basic CAD FEA Simulation	Minimum 2.0 in (METD 221 or METD 250) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
METM 240	Basic NX Machining	Minimum 2.0 in (METD 220 and METM 108) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 5
		Credits	**15 / 20**
		Total Credits	**69 / 94.5**