

LANSING COMMUNITY COLLEGE

CURRICULUM GUIDE

Manufacturing Engineering Technology
Associate in Applied Science Degree

Curriculum Code: 1359 (Effective Fall 2009 – Summer 2014)

This program prepares individuals to apply technical skills and advanced computer software and hardware to the design and manufacturing of machined components relating to various industries. Students receive instruction in the use of engineering graphics, two-dimensional and three-dimensional engineering design graphics, parametric modeling, computer numerical control programming, computer-aided manufacturing programming, manufacturing processes, metrology, lean manufacturing concepts, metallurgy, geometric dimensioning and tolerancing, making prototypes, tools for production, and engineering changes. Employment possibilities include engineering firms, consulting firms, and manufacturing companies that make automotive, defense industry, special machinery, and medical components, to name a few.

PREREQUISITES

Students should see *Course Descriptions* or *Course Offerings* for course prerequisite information. See the *Assessment and Placement Testing* section for skills assessment and advising information.

INFORMATION

Contact the Transportation and Engineering Technologies Department, West Campus Building, Room M103, telephone number (517) 267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone (517) 267-5510.

REQUIREMENTS (See Notes 1 and 2)

CODE	TITLE	TOTAL: 50 CREDITS CREDIT HOURS
MATH 115	Technical Math II	4
METD 105	PC Applications for Technology	3
METD 110	Mechanical CAD Drafting I (See Note 2)	4
METD 130	Geometric Dimension/Tolerance (See Note 2)	3
METD 220	Basic Unigraphics/NX	4
METD 230	CAM Data Preparation	2
METM 100	Manufacturing Processes	3
METM 110	Intro to Precision Machining (See Note 2)	4
METM 190	Metallurgy and Heat Treatment	4
METM 195	Metrology & Adv Inspection	2
METM 220	Basic Mastercam	4
METS 115	Intro to Mechanical Systems	4
MGMT 234	Diversity in the Workplace	3
SPCH 110	Oral Comm in the Workplace	3
WRIT 124	Technical Writing	3

LIMITED CHOICE REQUIREMENTS

TOTAL: 16-17 CREDITS

Complete the indicated number of credits from **EACH CHOICE** listed below.

CHOICE 1: General Education Core Areas

0 Credits

(See *General Education Core Requirements* for information on how to fulfill these requirements.

Core area proficiency exams, where appropriate, are available for each core area.)

Communication Core Area (See Note 3)	0
Global Perspectives and Diversity Core Area (See Note 3)	0
Mathematics Core Area (See Note 3)	0
Science Core Area (See Note 3)	0
Writing Core Area (See Note 3)	0

CHOICE 2: MET Specialty (Choose one subchoice)**16–17 Credits****Subchoice 2A: Design and Engineering**

METD 111	Mechanical CAD Drafting II	4
METD 221	Advanced Unigraphics/NX	4
METD 250	Detailing Assembly Drawings	4
METD 260	Jigs and Fixture Design	4

Subchoice 2B: Precision Machining

METM 120	Effective Use/Machine Handbook	4
METM 150	Advanced Precision Machining	4
METM 200	High Speed Precision Milling	3
METM 221	Advanced Mastercam	4
METS 102	Industrial/Construction Safety	2

MINIMUM TOTAL**66****NOTES:**

1. It is highly recommended that students work with an advisor before beginning this curriculum which assumes high level math placement.
2. Basic mechanical drafting skills are necessary to begin this curriculum and may be demonstrated by a score of 80% or better on the Drafting Placement Test or by passing METD 100 with a 2.0 minimum grade.
3. Students completing “REQUIREMENTS” have fulfilled the requirements for this Core area.

SUGGESTED COURSE SEQUENCE

Students should see course descriptions to find out when departments plan to offer courses. Students who for any reason are unable to follow the course sequence suggested below (for example, those who are part-time, have transferred in courses from another school, or have prerequisites to fulfill) should contact an academic advisor or counselor for help with adjustments.

Subchoice 2A: Design & Engineering

I	II	III	IV
MATH 115	METD 111	METD 250	METD 221
METD 105	METD 130	METM 190	METD 230
METD 110	METD 220	METM 195	METD 260
METM 100	METM 110	METM 220	MGMT 234
WRIT 124	SPCH 110	METS 115	

Subchoice 2B: Precision Machining

I	II	III	IV
METD 105	MATH 115	METD 220	METD 230
METM 100	METD 110	METM 195	METM 190
METM 110	METD 130	METM 200	METM 221
METS 102	METM 120	METM 220	MGMT 234
WRIT 124	METM 150	METS 115	SPCH 110