

# Metrology Technology



Engineering • Manufacturing • Industrial Technology

Career Pathways

The associate of applied science degree with specialization in metrology technology (precision measurement) is designed to meet the precision measurement needs of industry by preparing graduates through both theoretical and hands-on laboratory work to successfully enter the work force. Metrology is used throughout the world in such areas as telecommunications, manufacturing, electrical power, aerospace, transportation, medicine, pharmaceuticals, food production, packaging, construction, national defense, atmospheric research and environmental protection. The metrology technology program at MCCC emphasizes dimensional metrology for the manufacturing industry. Individuals with dimensional metrology skills, especially coordinate measuring machine (CMM) operators, are in high demand. MCCC is one of only a handful of colleges offering a program in dimensional metrology technology (one of only two in Michigan).

Graduates of this program will be prepared for employment in the following areas:

- Field service technician
- Inspection
- Lab technician
- Layout inspector
- Metrologist
- Metrology technician
- Quality assurance
- Quality control
- Testing technician

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
<b>Required General Education Courses</b>	<b>22</b>
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition 1) .....	3
<sup>1</sup> MATH .....	6
POLSC 151 (Introduction to Political Science) .....	3
<sup>2</sup> Social Science/Humanities Elective .....	3
PHY 101, 151 or CHEM 150 or 151 .....	4
† CIS 130 (Introduction to Computer Information Systems) .....	3

## Required Core Courses 40

<b>1st Semester</b>	
MATL 101 (Industrial Materials) .....	3
† MECH 103 (Basic Machine Tools) .....	4
† MDTC 160 (Mechanical Drafting and CAD I) .....	4
<b>2nd Semester</b>	
MDTC 226 (Geometric Dimensioning and Tolerancing) .....	3
MECH 102 (Manufacturing Processes) .....	4
QSTC 111 (Quality Management) .....	3
<b>3rd Semester</b>	
METC 220 (Statics & Strength of Materials) .....	4
QSTC 150 (Introduction to Metrology) .....	3
<b>4th Semester</b>	
† ELEC 125 (Fundamentals of Electricity) .....	3
ENGL 155 (Technical Writing) .....	3
QSTC 210 (Advanced Metrology) .....	3
QSTC 220 (Calibration and Gage R & R) .....	3

## Total Degree Requirements 62

### Certificate Program: Metrology Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in metrology technology. We recognize that many employers place value on a certificate which authenticates specialized educational preparation. The program concentrates upon basic core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate program are applicable toward the associate of applied science degree.

MATL 101 (Industrial Materials) .....	3
† MDTC 160 (Mechanical Drafting and CAD I) .....	4
MDTC 226 (Geometric Dimensioning and Tolerancing) .....	3
MECH 102 (Manufacturing Processes) .....	4
† MECH 103 (Basic Machine Tools) .....	4
MATH (Mathematics) .....	4
QSTC 150 (Introduction to Metrology) .....	3
QSTC 210 (Advanced Metrology) .....	3
QSTC 220 (Calibration and Gage R & R) .....	3

## Total Certificate Requirements 31

† Tech Prep course. See page 14.

<sup>1</sup> See page 37 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

<sup>2</sup> See the social science/humanities alternatives listed on page 37.