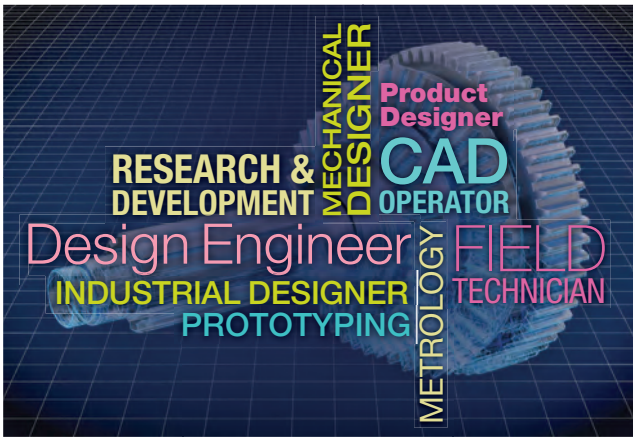
MECHANICAL DESIGN TECHNOLOGY

Applied Science and Engineering Technology Division 2019-2020

The associate of applied science degree with specialization in mechanical design technology is designed to prepare students for careers that follow the design process of a manufactured product from inspiration to final production. Automobiles, robotics, aerospace products, machinery, computer and electronic products – the list of products designed by people in this field could go on forever. Mechanical design students receive training in the latest solid-modeling computer aided design (CAD) software. The CAD programs utilized in the design program are DraftSight, AutoCAD, SOLIDWORKS and CATIA. Possessing skills and knowledge in multiple CAD programs makes our design graduates more marketable – it is all about having an edge. Mechanical design is a dynamic field that attracts talented, creative people. The need for advanced technology products in the medical, transportation and energy fields, as well as the growing global competition among businesses, is expected to keep designers busy for many years to come.

Career Opportunities

According to the Bureau of Labor Statistics, employment of commercial and industrial designers is expected to grow 4 percent in the 10-year period leading up to 2026. Employment growth will arise from an increase in consumer and business demand for

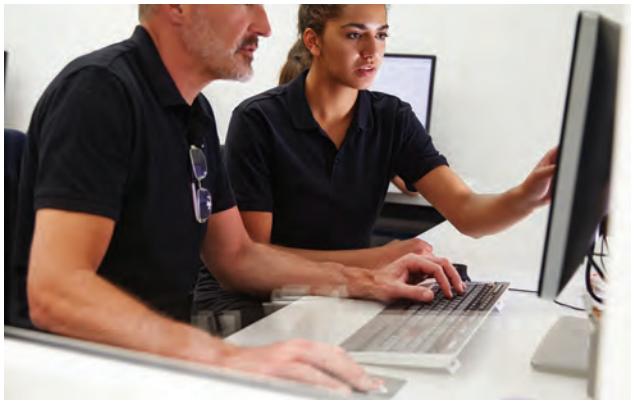


new or upgraded products. Typical mechanical design titles include:

- CAD operator
- Design engineer
- Field technician
- Industrial designer
- Product designer
- Mechanical designer
- Research and development technician

Note: The following codes identify courses that satisfy MCCC's General Education Requirements:

(C1) GE Natural Sciences Competency
(C2) GE Mathematics Competency
(C3) GE Writing Competency
(C4) GE Computer Literacy Competency
(C5) GE Human Experience Competency
(C6) GE Social Systems Competency



		Credits
Required General Education Courses		**21**
C1	PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I)	4
C2	MATH 124* (Technical Mathematics II) or competency	4
C3	ENGL 151 (English Composition I)	3
C4	MDTC 160 (Mechanical Drafting and CAD I)	4
C5	Expressions of the Human Experience Competency	3
C6	Social Systems Competency	3

See the General Education Requirements on the MCCC website for a list of courses that satisfy the General Education Learning Competencies.

Required Core Courses	Credits 40-41
1st Semester	
MDTC 160 (Mechanical Drafting and CAD I)	4
MECH 102 (Manufacturing Processes)	4
MECH 103 (Machining Basics and CNC)	4
2nd Semester	
MDTC 152 (Descriptive Geometry)	4
MDTC 161 (Mechanical Drafting and CAD II)	4
MDTC 228 (Introduction to SOLIDWORKS-CSWA)	3
3rd Semester	
MDTC 226 (Geometric Dimensioning and Tolerancing)	3
MDTC 236 (Rapid Prototyping)	4
Restricted Elective	3
4th Semester	
MDTC 242 (Mechanical Design Capstone Project)	4
METC 170 (Introduction to Parametric CAD/CATIA) or METC 172 (Introduction to Parametric CAD/UG NX)	3-4
METC 220 (Statics & Strength of Materials)	4

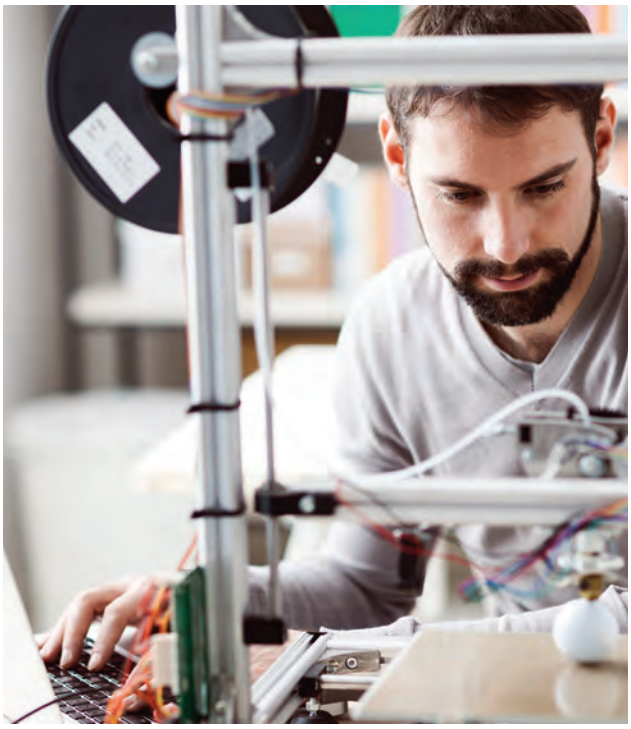
Restricted Electives (select one)	
MATL 101 (Industrial Materials)	3
MDTC 232 (Advanced SOLIDWORKS-CSWP)	3
MECH 201 (CAD/CAM I)	3
QSTC 150 (Introduction to Metrology)	3

Total Degree Requirements	**61-62 credits**
Total Degree Cost	**83 minimum billable contact hours**

** MATH 119 (Elementary Technical Mathematics) and MATH 124 (Technical Mathematics II) are required for students whose goal is to complete the associate of applied science degree and seek employment. MATH 157 (College Algebra) and MATH 159 (Trigonometry and Analytical Geometry) are recommended for students interested in transferring to a four-year institution. Other MATH courses may be selected for transfer depending on the student's choice of transfer institution. Students interested in transfer are encouraged to seek the assistance of a faculty advisor or admissions counselor.*

Certificate Program: Mechanical Design Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in mechanical design 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.

	Credits
MDTC 152 (Descriptive Geometry)	4
MDTC 160 (Mechanical Drafting and CAD I)	4
MDTC 161 (Mechanical Drafting and CAD II)	4
MDTC 228 (Introduction to SOLIDWORKS-CSWA)	3
MECH 102 (Manufacturing Processes)	4
MECH 103 (Machining Basics and CNC)	4

Total Degree Requirements	**23 credits**
Total Degree Cost	**34 minimum billable contact hours**

Main Campus
1555 South Raisinville Road
Monroe, Michigan 48161
734-242-7300 / 1-877-YES-MCCC

Whitman Center
7777 Lewis Avenue
Temperance, Michigan 48182
734-847-0559

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