

MANUFACTURING ENGINEERING

Mechanical Engineering Technology Major

TECHNOLOGY & WORKFORCE DEVELOPMENT DIVISION

Program of Study

The Mechanical Engineering Technology major is for a person who aspires to be an integral part of product design and manufacturing. Beginning with CAD skills and a fundamental knowledge of Blueprint reading, graduates of this program learn to create drawings, solid models and assemblies and utilize those skills to work inside of CAM software. Each of the aforementioned systems simplify, enhance and streamline the process of engineering.

Included are traditional engineering courses such as Statics, Strength of Materials, and Machine Design. Students in this program will learn to apply the principles of mathematics and physics to solve real-world design problems.

This degree is designed for students who wish to earn an Associate's degree and then go into the workforce OR students who would like to go on to receive a Bachelor's degree in Mechanical Engineering Technology. Additional courses such as Hydraulic Design, Precalculus, Calculus I, Calculus II, General Physics II and Chemistry may be required to transfer as a Junior into a Bachelor's program. See academic advisor for more information.

The faculty has identified the following Learning Outcomes for all graduates:

- Prepare drawing on Computer-Aided Design (CAD) to completely describe a part for manufacture, including views and tolerances.
- Produce parts using various types of manual machines.
- Inspect parts that were produced using various types of tools.
- Program and produce parts on a variety of Computer Numerical Control (CNC) equipment.
- Utilize CAD skills to present a design including assemblies for approval.
- Complete a design from start to finish.

POTENTIAL OCCUPATIONS:

- CAD Technician
- CAM Technician
- CNC Technician
- Mechanical Designer
- Process Engineer

Associate of Applied Science

TECHNICAL CONCENTRATION

		Credit Hrs.
CAD 1110	CAD I	3
CAD 1320	CAD II	3
MET 1080	Manufacturing Systems.	3
MET 1130	Manufacturing Processes I	2
MET 1140	Manufacturing Processes Lab	1
MET 1321	CNC I	2
MET 1322	CNC I Lab	1
MET 2110	Statics	3
MET 2150	Strength of Materials	3
MET 2200	Hydraulics	3
MET 2210	Machine Design	3
MET 2501	CAM Programming.	2
MET 2502	CAM Lab	1
MFG 1020	Safety.	1
	Total Technical Credit Hours	31

GENERAL EDUCATION AND RELATED COURSES

GEN 1000	First-Year Seminar	1
ECO 2010	Economics I	3
ENG 1050	College Composition I	3
ENG 1900	Technical Writing	3
HUM 1010	Critical Thinking	3
MGT 2300	Process Improvement & Lean Mfg	3
MTH 1310	Intermediate Algebra	4
MTH 1320	Intermediate Trigonometry	3
PHY 1310	General Physics I.	4
PHY 1315	General Physics Lab I	1
QCT 1020	Blueprint Reading	2
SPE 2010	Effective Speaking	3
	Total General Education & Related Credit Hours.	33

TOTAL CREDIT HOURS **64**

- * See page 95 for a listing of specific electives.
See your advisor for appropriate course selection.

For available Certificate Program options, see catalog pages 97-103.

- ** All students graduating from Terra State Community College with an Associate degree of any kind will be functionally proficient in common computer operations and applications. Please see your academic advisor or academic division office for further details.

To determine when courses are scheduled, see program curriculum sheet which is available from the Enrollment Services office in Building A/Room 100, from the Technology and Workforce Development Division office, Building E, Room 107 or on the web at www.terra.edu.