MANUFACTURING TECHNOLOGY (MT)

About the program

Programs in this field provide general and specific educational opportunities for students seeking careers in drafting and design for manufacturing, machining operations, computer-controlled manufacturing, process control, production, and supervision.

Degrees/Certificates within this Program:

- Associate of Science Degree, CADD/CAM Design and Manufacturing
- Certificate of Achievement, CADD/CAM Design and Manufacturing
- Associate of Science Degree, Manufacturing Technology
- Certificate of Achievement, Manufacturing Technology

Similar Degrees/Certificates offered at CR:

- Associate of Science Degree, Drafting & 3D Modeling
- Certificate of Achievement, Drafting & 3D Modeling
- Certificate of Achievement, Welding Technology

Career Opportunities

Employment opportunities in this field include:

- Machinists
- Tool & Die Makers
- Mechanical Engineers, after transferring to a four-year program
- Model Makers
- Computer Numerical Control Machine Programmers
- Electromechanical Maintenance Technicians
- Drafters and Designers

For more information

- Mike Peterson, Professor, Manufacturing Technology
  707-476-4350 | Mike-Peterson@redwoods.edu
  www.redwoods.edu/Manufacturing-Technology/
- Career & Technical Division, 707-476-4341
- Counseling & Advising, 707-476-4150

Program Learning Outcomes

- Set-up and operate manual machine tools including milling machines, lathes, precision grinders, Electrical Discharge Machines, and support equipment including drill presses, grinders and saws.
- Set-up and operate Computer Aided Manufacturing systems and Computer Numerical Control machine tools including machining centers, turning centers, and rapid prototyping machines.
- Produce machine parts from engineering drawings within dimensional tolerances.
- Determine the best way to manufacture a given part and produce it utilizing the available tools and equipment.

Associate of Science Degree, Manufacturing Technology

	Units
General Education Requirements	**18.0**
Program Requirements	
Core Courses	**43.0**
CET 10* Survey of Electronics	3.0
IT 60A Basic Manufacturing Blueprint Reading	3.0
IT 60B Machine Parts Blueprint Reading	3.0
MT 10 Fundamentals of Manufacturing Technology	3.0
MT 11 Advanced Manufacturing - Turning	4.0
MT 12 Advanced Manufacturing - Milling	4.0
MT 13 Advanced Manufacturing Processes	4.0
MT 52 Ferrous Metallurgy	3.0
MT 54A Intro to Computer Numerical Control	4.0
MT 54B Computer Numerical Control Machining	4.0
MT 59A Mastercam 2D Programming	4.0
MT 59B Mastercam 3D Programming	4.0
Restricted Electives *(Choose 3 units from the list below)*	**3.0**
**DHET 167 Hydraulics and Pneumatics	3.0
DT 23 Engineering Design Graphics	3.0
or ENGR 23 Engineering Design Graphics	3.0
IT 25 Occupational Safety & Health Management	3.0
**IT 46 Computers in Industrial Management	3.0
MT 54L Computer Numerical Control Lab	2.0
WT 53 Basic Gas and Arc Welding	2.0
Unrestricted Electives - as needed to complete 61 units total	
Total Units	**61.0**

**Course may be double counted toward General Education.*
***Course inactivated. Please see department for appropriate substitution.*

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Suggested Program Sequence
Fall Start

Semester 1 CET 10, IT 60A*, MT 10, MT 54A*

Semester 2 IT 60B*, MT 11, MT 54B*

Semester 3 MT 12, MT 52, MT 59A*

Semester 4 MT 13*, MT 59B*

Plus 3 units from Restricted Electives

**Course offered every other year.*