



ADVANCED MANUFACTURING APPRENTICESHIP

LEVEL 1

MEC 1020 MANUFACTURING PROCESSES I

(2 CREDITS) AUGUST 22-DECEMBER 13, 2022

This hands-on course with a strong focus on safety and skilled operation introduces the student to a wide variety of manufacturing processes. Although heavily focused on traditional machine tools (lathes, mills, grinders, etc.), it also explores the processes of casting, welding, molding, and industrial cutting (plasma, water-jet, laser).

LEVEL 2

MEC 1011 DESIGN COMMUNICATIONS I

(2 CREDITS) DATES: TBD

This course provides a basic understanding of the principles and technology of mechanical drawing and computer modeling as methods of documenting and communicating mechanical designs. It covers the concepts of geometric construction and orthographic, sectional, auxiliary, and assembly views and introduces dimensioning methods and types of fasteners. The student gains basic proficiency in using a solid parametric three-dimensional CAD program to build parts, assemblies, and detailed working drawings through the use of SolidWorks 2021.

MEC 1060 METROLOGY & INSPECTION TECHNIQUES

(3 CREDITS) DATES: TBD

This course explores the fundamental concepts of modern dimensional metrology and related inspection techniques. Topics include the language and system of measurement; tolerances; metrology; statistics of metrology; measurement with graduated scales and scaled instruments; Vernier instruments; micrometer instruments; the development and use of gage blocks; measurement by comparison and high-amplitude comparators; pneumatic measurement; and calibration.

LEVEL 3

MEC 2040 COMPUTER-AIDED TECHNOLOGY

(2 CREDITS) DATES: TBD

In this course, the student learns G-code programming of machine tools and learns to use computer-aided manufacturing software to generate toolpaths, which are then translated into G-code programs. CNC machine tool set-up and operation are key components and CAD software is used extensively. Other technologies, such as waterjet, laser cutter, and additive manufacturing, may be covered. Includes technical math.

Hands-on training taught by industry professionals. Earn college credit while you learn the skills you need to succeed in the field of advanced manufacturing.

LOCATION

Vermont Tech Campus
Williston, Vermont

TIME

M/T, 5-8 pm

COST

None! These courses are fully-funded by the U.S. Department of Labor



** Dates subject to change.*