

# MANUFACTURING TECHNICIAN - CAREER PATHWAY CERTIFICATE OF COMPLETION (CPCC)

## Description

The Manufacturing Technician Career Pathway Certificate of Completion is designed to bridge high schools students and newcomers to the trade by means of basic blueprint reading, basic use of lathe, mill, drill press, bandsaw, and an orientation course on SolidWorks, a solid modeling computer-aided design and computer-aided engineering computer program. It also introduces stick welding to help students decide on a path to welding or machining.

This certificate's credits can be applied to the Manufacturing CNC Machine Operator One-Year Certificate of Completion.

## Program Learning Outcomes

Upon successful completion of the program, students will be able to:

1. Demonstrate the ability to safely perform routine workplace tasks in a manufacturing/fabrication environment.
2. Demonstrate introductory level skills with the standard tools found in a manufacturing/fabrication environment. (blueprint reading, engine lathe, vertical mill, SMAW, GMAW, CAD/3D modeling)

## Entrance Requirements

### Academic Entrance Requirements

Recommended:

- High school diploma or GED
- Completion of MTH 060 Beginning Algebra or minimum placement Math Level 10
- Successful completion of or current enrollment in MFG 100 MFG Orientation
- College-level computer skills

## Additional Program Costs (Beyond Standard Tuition/Fees and Textbooks)

### Material Costs

- Machining personal protective equipment and tools: not required for MFG 103 Welding Technology I or MFG 110 Manufacturing Processes I

### Enrollment Fees

- Fees on specific MFG courses: approximately \$130

## Course Requirements

Course	Title	Credits
<b>Core Courses</b>		
MFG 101	Blueprint Reading	3
MFG 103	Welding Technology I	4
MFG 110	Manufacturing Processes I	4
MFG 119	Manufacturing Design and Drafting Techniques	4

or MFG 119M Mechanical Drawing Techniques

**Total Credits**

**15**

## Advising Notes

Nearly all MFG courses are self-directed and outcome based. This provides students with a greater degree of flexibility than many other programs.

Upon starting their program, students review their desired certificate or degree outcome with their advisor, and a sequence of coursework is identified for them. This is particularly important if developmental work is needed.

This certificate is designed for students planning to enter the manufacturing workforce upon graduation. Often only selected credits are considered transferable to public or private baccalaureate institutions. Before starting any manufacturing program, students are advised to contact the institution to which they intend to transfer and identify what credits may be transferable.

Most of the skills development courses in this program require two hours a week in the welding lab for each credit. This usually means students will need to schedule 24 hrs or more each week in the lab. The welding lab is staffed Monday through Thursday 9 am to 8 pm (40 hours a week).

## Performance Standards

- Academic Requirements:
  - Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
  - All courses in the program must be completed with a grade of C or higher.

## Sample Plan

First Year		
First Term		Credits
MFG 101	Blueprint Reading	3
MFG 103	Welding Technology I	4
MFG 110	Manufacturing Processes I	4
MFG 119 or MFG 119M	Manufacturing Design and Drafting Techniques or Mechanical Drawing Techniques	4
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>15</b>