MANUFACTURING CNC, CERTIFICATE OF PROFICIENCY (CNCP)

Effective: Spring 2021

This certificate is designed to prepare students for Computer Numerical Control (CNC) machining and is also ideal for students who need to upgrade prior machine shop training to comply with the current needs of industry. Students learn the techniques, hardware, software menus and computer system practices associated with a Computer-Aided Machining/Distributed Numerical Control (CAM/DNC) system to manually write, save, retrieve and transfer CNC machine tool programs. The curriculum is designed to prepare students to sit for NIMS certification upon completion of the program. NIMS (National Institute for Metalworking Skills) credentials signifies a person can perform the work of a CNC Machine Operator according to recognized national standards.

Program Outcomes

Upon successful completion of this program, students should be able to:

- Perform basic Computer Numerical Control (CNC) programming, set up and operations of CNC, conventional machine tools, precision tools and general tools.
- Demonstrate knowledge of print reading.
- Use mathematical knowledge to solve machining problems.
- Develop, document and implement project plan for machining parts.
- Demonstrate effective communication skills.
- Demonstrate an understanding of safety principles and practices used in modern machining facilities.

Full-Time Academic Plan

The College will award a certificate of proficiency to students who complete 30 credits of an approved career program. These credits will not normally include physical education, developmental, basic and/or continuing education courses and will usually consist of 24 credits in the career specialty and six credits in general education. At least 50 percent of the credits must be earned at Delaware County Community College. The student must have a cumulative GPA of 2.0 or higher. At least six credit hours must be in courses that are awarded grade points.

First Semester		Hours
MTT 108	Mathematics for Occupational Technologies	3
MTT 110	Print Layout and Measurement for Machining	4
MTT 111	Introduction to Manufacturing	3
MTT 112	Lathe Operations I	3
	Hours	**13**
Second Semester		
MTT 122	Lathe Operations II	3
MTT 124	Milling Operations I	3
MTT 210	CNC Machine Tool Operations	3
MTT 213	Manufacturing Processes	3
TCC 111	Technical Communications	3
	Hours	**15**
Third Semester		
MTT 214	Milling Operations II	3
MTT 220	CNC Programming	3
	Hours	**6**
	Total Hours	**34**

Part-Time Academic Plan

Code	Title	Hours
First Semester		
MTT 108	Mathematics for Occupational Technologies	3
MTT 110	Print Layout and Measurement for Machining	4
Second Semester		
MTT 111	Introduction to Manufacturing	3
MTT 112	Lathe Operations I	3
Third Semester		
MTT 124	Milling Operations I	3
MTT 122	Lathe Operations II	3
Fourth Semester		
MTT 210	CNC Machine Tool Operations	3
MTT 213	Manufacturing Processes	3
Fifth Semester		
MTT 214	Milling Operations II	3
MTT 220	CNC Programming	3
Sixth Semester		
TCC 111	Technical Communications	3
Total Hours		**34**

Career