

# COMPUTER-AIDED MACHINING LATHE, MILL AND EDM, CERTIFICATE OF COMPETENCY (CAM)

Effective: Spring 2016

This advanced certificate is designed for students who have completed the CNC Programming-Lathe and Mill Certificate and also have prior machining experience. The Program prepares the student for entry-level positions in the occupational specialty of Computer Aided Manufacturing/Machining in Lathe, Mill and EDM programming and operations. Concepts covered in the program include CAM as a design, management and operational tool, principles of EDM technology and production utilizing EDM equipment. The students will learn how to maximize efficiencies and effectiveness via software and equipment integration. Departmental approval is required to enroll in the Program.

## Program Outcomes

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

- Interact with hardware/software in order to create and manipulate various views as a means for appropriately displaying a model.
- Plan and demonstrate steps for creating and modifying (manufactured) part models.
- Structure a plan for approaching multi-part, same set-up, tool path generation for difficult to machine piece-parts.
- Generate tool paths for creating cross drilling, face contouring and c-axis contours on mill-turn machine tool.
- Set-up and operate a ram and a wire EDM machine tool in order to achieve desired inspection/quality characteristics on a finished part.
- Utilize CAM software programming options to modify cutting parameters and settings, part geometry at various points on a contour.

## Full-Time Academic Plan

The College will award a certificate of competency to students who complete an approved credit-bearing career program that requires less than 30 credits. General education courses may not be required for programs that have less than 30 credits. The student must have a cumulative GPA of 2.0 or higher. At least six (6) credits, or 50% of the total credits required, whichever is greater, must be completed at Delaware County Community College.

First Semester		Hours
MTT 129	Solids (CAM) Modeling	3
MTT 219	CAM Solids I	3
MTT 229 or MTT 199	CAM Solids II or Machine Tool Internship (3 credits)	3
MTT 230	Electrical Discharge Machining	4
	<b>Hours</b>	<b>13</b>
	<b>Total Hours</b>	<b>13</b>

## Part-Time Academic Plan

Code	Title	Hours
<b>First Semester</b>		
MTT 129	Solids (CAM) Modeling	3
<b>Second Semester</b>		
MTT 219	CAM Solids I	3
<b>Third Semester</b>		
MTT 229 or MTT 199	CAM Solids II Machine Tool Internship (3 credits)	3
MTT 230	Electrical Discharge Machining	4
<b>Total Hours</b>		<b>13</b>

## Career