



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: CNC 1202 CNC Milling Machine Operations

Effective Date: Fall 2024

Credit Hours: 3

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): None

Enrollment by assessment or other measure? Yes No

If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): CNC 1200

Consent of Instructor: Yes No

Delivery Method:	<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
	<input checked="" type="checkbox"/> Lab	2 Contact Hours (2-3 contact = 1 credit hour)
	<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

In this course, students will learn about the basic and advanced features of CNC milling machines, including controls and programming. They will learn how to read blueprints and use G&M codes to write part programs. Students will also learn how to select tools, speeds and feeds for different operations and materials. They will also learn how to download and upload files from a computer to a CNC control.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Safety
2. Video instruction
3. Sequence of operation
4. Composition of program
5. Program loading
6. Reading and interpreting action codes
7. Verification and editing programs
8. Routine maintenance

INSTRUCTIONAL METHODS:

1. Lecture
2. Video Demonstration
3. Practical applications
4. Individualized instrumentation
5. Hands-on lab work
6. Master Task on-line lectures/test

EVALUATION OF STUDENT ACHIEVEMENT:

1. Problem solving
2. Skill proficiency
3. Technical knowledge

INSTRUCTIONAL MATERIALS:

Textbooks

McGraw-Hill Machining and CNC Technology

Resources

Haas CNC reference guide

Haas mill programming workbook

Power point slides

Example Programs

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively.
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion.
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally.
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

1. Develop a fundamental understanding of manufacturing processes and language.
2. Understand and use various machines such as lathes, milling machines, drill presses and grinding machines.
3. Care for and use various measuring instruments used in manufacturing.
4. Perform layout tasks and build parts off prints.
5. Develop tool list for particular process sequence.
6. Select and design simple work-holding fixture to secure parts.