ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: CNC 1202 CNC Milling Machine Operations

Date: Spring 2023

Credit Hours: 3

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

Prerequisite(s): CNC 1200 with a grade of C or better.

Enrollment by assessment or other measure? ☐ Yes ☒ No
If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor: ☐ Yes ☒ No

Delivery Method:		
☒ **Lecture**	**2 Contact Hours**	**(1 contact = 1 credit hour)**
☐ **Seminar**	**0 Contact Hours**	**(1 contact = 1 credit hour)**
☒ **Lab**	**2 Contact Hours**	**(2-3 contact = 1 credit hour)**
☐ **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 programing 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.