

CNC Milling I

Course Outcome Summary

Updated November 2022

Course Information

Total Credits 3

Description

Students will gain practical experience in setting up and performing basic operations on CNC Milling machines.

Prerequisites

OSHA 10 or 30 Safety Course
CNC Operations

Exit Learning Outcomes

Program Outcomes

- A. The student will be able to program, set up, and operate the CNC Vertical Milling Machine, and perform necessary maintenance tasks.
- B. The student will select the correct tooling to perform operations on the Vertical Machining Center.
- C. Manufacture parts from various materials in accordance with specifications from blueprints, electronic drawings, and shop sketches
- D. Solve quality problems using process planning, technical knowledge, teamwork, mathematics, and critical thinking
- E. Apply safety principles in a work environment to minimize hazards and prevent losses to productivity
- F. Demonstrate employability skills needed to obtain and retain employment in machine tool and related fields
- G. Use CAD and CAM programs to design parts and program manufacturing machines

Competencies

- 1. Students will graphically preview tool paths.
- 2. Students will demonstrate safe use of equipment.
- 3. Students will demonstrate proper setup and use of tools and fixtures.
- 4. Students will operate a CNC mill to process parts within specifications.
- 5. Students will manually perform operations to make linear, angular, and circular moves.
- 6. Students will perform and document first part inspection.
- 7. Students will identify when and how to change cutting tools.
- 8. Students will demonstrate proper lab maintenance including cleaning.