South Central College

MTT 1110 CNC Milling Level I

Course Outcome Summary

Course Information

Description This course provides the student an introduction to basic milling operations. Upon completion of this course the student will have an understanding of manual and Computer Numerical Control (CNC) milling practices as well as gain knowledge in tooling, machining practices and applied mathematics. Teamwork, critical thinking and problem solving are emphasized. Hands-on experience and practical applications are included. (Prerequisite: Declare MTT as a major)

Total Credits 5

Total Hours 128

Types of Instruction

Instruction Type	Credits/Hours
Lec	2/32
Lab	3/96

Pre/Corequisites

Declare MTT as a major.

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions

11. Identify Control System

Learning Objectives

Identify Types of CNC Control Panels
Demonstrate Soft Key Use
Analyze Control Panel Screen Function Labels
Explain Manual Data Input (MDI) and Auto Modes

12. Explain Program Planning

Learning Objectives

Explain Part Overview
Identify Part Material Composition
Define Type of Motion for Milling Part
Calculate Tool-Change

13. Demonstrate Programming G and M Codes

Learning Objectives

Explain G and M Codes
Define Screen Display and Keyboard
Demonstrate Linear Interpolation for CNC Milling
Demonstrate Circular Interpolation for CNC Milling
Demonstrate Two-Dimensional CNC Milling

14. Explain Offsets

Learning Objectives

Interpret Work Offsets
Explain Machine Origin and Workpiece Origin
Define Workshift
Calculate X, Y and Z Offset Settings

15. Activate Homing Procedure

Learning Objectives

Demonstrate Machine Power-Up
Demonstrate Homing Procedure

Additional information and forms can be found at: www.southcentral.edu/disability

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.