Alexandria Technical and Community College

MACH 2510: Computer Numerical Control

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 3
Lab Hours/Week: *.*
OJT Hours/Week: *.*

Prerequisites:
This course requires all five of these prerequisites
- MACH 1625 - Blueprint Reading/Geometric Tolerancing II (Number of Years Valid: 5)
- MACH 1626 - Turning II (Number of Years Valid: 5)
- MACH 1627 - Milling II (Number of Years Valid: 5)
- MACH 1628 - Grinding II (Number of Years Valid: 5)
- MACH 1629 - Machine Tool Theory II (Number of Years Valid: 5)

Corequisites: None
MnTC Goals: None

This course familiarizes learners with the planning, organization, programming, and operation of computer numerical control machine tools. Before entering industry, learners need a basic understanding of Computer Numerical Control (CNC) programming to effectively operate the machines related to industry. Prerequisite: First year of Machine Tool Technology program.

B. COURSE EFFECTIVE DATES: 12/12/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Explain the common components of a CNC machine tool.
2. Explain basic CNC machining processes.
3. Identify proper selection of CNC cutting tools.
4. Learn programming concepts using NC code.
5. Demonstrate NC programming skills using project blueprints.

D. LEARNING OUTCOMES (General)

1. The learner will learn the basics of Numerical Control operating system.
2. The learner will learn how to write a program for a 3-Axis CNC Machining Center.
3. The learner will learn how to write a program for a Turning Center.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted