

MFG 260 : CNC LATHE I

Transcript title

CNC Lathe I

Credits

4

Grading mode

Standard letter grades

Total contact hours

80

Lecture hours

20

Lab hours

60

Prerequisites

MFG 100 and MFG 110.

Course Description

Introduces concepts used in the basic operation and setup of Computer Numerically Controlled (CNC) Lathes.

Course learning outcomes

1. Demonstrate safe practices while using the MATC Machining Lab.
2. Demonstrate the automatic and manual functions of CNC Lathe operations.
3. Explain the different components and sections of the Machine Control Unit (MCU).
4. Describe the key sequences of CNC Lathe machine operation for machining centers using G and M code.
5. Validate CNC lathe machining programs before implementing cutting operations.

Content outline

1. CNC Lathe Machine safety
2. CNC Lathe Machine nomenclature
3. Basic Familiarization with G and M code
4. Controller modes and operation of a CNC Lathe, including the use of the buttons, switches, and keys found on CNC Lathe machine control units (MCU), the control panel display, machine operation, feed, spindle speed, tool changing, and axis motion and automatic/manual operation of the machine tool
5. Tool holder setups
6. Establishing cutter tool length compensation for a CNC Lathe
7. Tooling page editing
8. Part cutting operations
9. Conversational programming basics for a CNC Lathe

Required materials

Requires textbook and required tools for second-term machining students.