

CNC Turning



Description

In DEPCO's CNC Turning curriculum, students learn about the history, safety practices, and basic principles of a turning process. Students use NC code to machine parts in the CNC lathe. Math and science are taught through coordinate systems. Students also use technological hardware (digital measuring devices) and software (Mastercam).

Skills

- Focuses on the development of academic knowledge, employability skills, and technical skills. As students progress through the curriculum, the classroom instructor uses a detailed rubric to subjectively evaluate the student's skill and proficiency.

Objectives

- Identify and locate the parts of a CNC lathe.
- Use the CNC control program.
- Use the cutting tool to set the x and z positions.
- Type code to generate an NC file that the CNC lathe can understand.
- Demonstrate coordinate positioning using both the absolute and relative systems.
- Set up the CNC lathe to perform a drilling operation.

Activities

- Lesson 1 Safety and Accuracy
- Lesson 2 Digital Precision
- Lesson 3 Machine a Sample Part
- Lesson 4 NC Code and Verification
- Lesson 5 Coordinate Positioning
- Lesson 6 Generate NC Code
- Lesson 7 CNC Repeatability
- Lesson 8 Machine from NC Code
- Lesson 9 Screwdriver Project
- Lesson 10 Drilling Operations
- Lesson 11 Arc NC Code Creation
- Lesson 12 Machine from a CAD Drawing
- Lesson 13 Create Your Own Code
- Lesson 14 CAD/CAM
- Lesson 15 2-D Design
- Lesson 16 2-D Toolpaths and Job Setup Project 1
- Lesson 17 2-D Toolpaths and Job Setup Project 2
- Lesson 18 Design from a CAD Drawing
- Lesson 19 Reverse Engineering
- Lesson 20 Challenge and Review

Standards

DEPCO courseware is developed from the Manufacturing Skill Standards Council (MSSC) and the National Skill Standards Board (NSSB). Close correlation with these standards will provide students with the skills and knowledge necessary for success in the workplace.

Module Includes:

Level 1 Industrial Training Center Includes: DEPCO CNC Turning Training Manual, DEPCO CNC Turning Instructor's Manual, DEPCO CNC Turning Installation CD, CNC Turning Center, Mastercam Software, Shop Vac (1gal), Craftsman 4 Drawer Toolbox, 3-Jaw Lathe Chuck, Pneumatic Coupler, Safety Glasses, Cut-Off Tool, Indexable Tool & Holder, Intelitek Indexable Tool & Holder, Electronic Caliper, Jacobs Chuck, Tailstock Chuck & Key.

Requirements

Computer required and sold separately

Curriculum Specifications

Industrial Training Manuals 1 and 2

Instructor's Guide

Installation CD

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