



Affordable computer based training!

\$149.00 each!
(courseware only)



CNC Programming, Setup and Operation

For CNC Machining Centers and Turning Centers

Learn the two most popular CNC machine types!

Almost all CNC using companies have at least one machining center or turning center. If you are not fully versed with its usage, it's likely that you're not taking full advantage of what these sophisticated machines can do. Using our proven *key concepts* approach, these two courses teach CNC machining center and turning center usage from the ground up.

Learn CNC features with the most intimate programming method!

The principles of CNC are best introduced and learned during discussions of manual programming (also called G code programming). Concepts like program zero assignment, motion types, compensation, and special features are easy to master at G code level. Yet many CNC people that use computer aided manufacturing (CAM) systems avoid G code level programming like the plague. Or worse -- they've never been exposed to it. Regardless of how you develop programs, *all* CNC people should have a good working knowledge of G code - especially if program changes must be made during a program's verification. Using a CAM system without understanding the G code level programs it produces is like using a calculator without understanding basic arithmetic! Here's your chance to get up to speed!

Learn the most popular control in the industry!

While our key concepts can be applied to any CNC machining center or turning center, all specific examples are given in the format for the Fanuc control - the industry standard for CNC. Fanuc is so popular that many control manufacturers claim to be *Fanuc-compatible* (including Mitsubishi, Yasnac, Haas, and Hitachi).

Lesson structure

Each of the lessons (24 in the machining center course and 28 in the turning center course) will have a lesson plan, the lesson presentation, and a lesson summary. After each lesson, there's an exercise to do (you must purchase the workbook/answer combination to do the exercises). This simple structure makes it easy to learn CNC - and it can be used over and over again!

Microsoft PowerPoint Viewer

All presentations include narrations & colorful animated graphics and have been prepared in Microsoft PowerPoint. Microsoft PowerPoint Viewer is included to show presentations.

System requirements: You'll need a multimedia computer with Windows 95 (or above), 64 MB ram (minimum) and 6 MB free hard drive space.

Twenty-four or more tutorial lessons!

Each course is presented in tutorial format (compare this to your control manufacturer's programming manual). While we do assume students understand basic machining practices, we assume nothing about their current knowledge of CNC.

Key concepts and lessons (machining center course):

Key concept one: Know your machine

- 1: Machine configurations 18:00
- 2: Flow of the CNC usage 8:00
- 3: Visualizing program execution 10:00
- 4: Understanding program zero 20:00
- 5: Locating the program zero point 13:00
- 6: Ways to assign program zero 6:00
- 7: Introduction to programming words 20:00

Key concept two: You must prepare

- 8: The importance of preparation 12:00

Key concept three: Three kinds of motion

- 9: Motion Types 25:00

Key concept four: Three kinds of compensation

- 10: Introduction to compensation 12:00
- 11: Tool length compensation 18:00
- 12: Cutter radius compensation 25:00
- 13: Fixture offsets 15:00

Key concept five: Program formatting

- 14: Program formatting 7:00
- 15: Four kinds of program format 15:00

Key concept six: Special features

- 16: Canned cycles 15:00
- 17: Sub-programming 11:00
- 18: Other special features of programming 20:00
- 19: Rotary device programming 10:00

Key concept seven: Know your machine

- 20: Setup and operation tasks 17:00
- 21: Buttons and switches 15:00

Key concept eight: Three modes of operation

- 22: The three modes of operation 15:00

Key concept nine: Key operation procedures

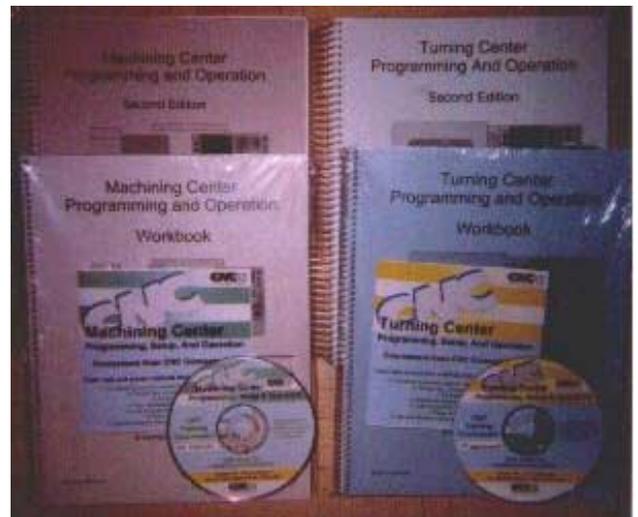
- 23: The key operation procedures 16:00

Key concept ten: Know how to verify programs

- 24: Safely verifying and running programs 20:00

Pricing for each course: Each CD-rom disk (\$149.00) makes a formidable training tool all by itself. When combined with the student manual (\$70.00 additional), the student will have a portable reference to use long after completing the course. The workbook/answer combination (\$49.90 additional) allows the student to confirm comprehension as they work through the course. We offer the entire course for \$249.00 (a discount of about eighteen dollars).

Download a **FREE** sample! www.cncci.com



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