



## INTRODUCTION

What you will find in this document is the information necessary to develop a curriculum to teach the operation, set-up and programming of CNC Machine Tools.

This is multi – purpose document.

First of all, its development was based on the need for a consistent set of standards as they are related to the field of CNC (Computer Numerical Control).

The “Tasks” were developed based on the consensus of what minimum requirements would be necessary for a person to operate competently a CNC machine tool. These “Tasks” and their associated “Measurable Objectives” are broken down into two very distinct areas.

The first of these is “Application Based” activities where that person will be actively engaged at the CNC Machine Tool doing various things based on the given Task.

The second of these areas, and just as important, is the “Knowledge Based” portion. Each level has a “Knowledge Based” segment. This area deals with specific knowledge as to the theory and practice of operating a CNC Machine Tool.

As the levels progress the person is expected to be able to perform tasks that are more difficult and complex in nature and to have gained greater knowledge as to the theory and practice as related to the CNC Machine Tools.

The last of the “Tasks” is centered on the actual writing of programs and set up of the VMC and CNC Turning center. At this point the person would have the knowledge and practical machining experience to properly process a print.  
This document does not cover machining nor was the intent to do so.

Again, this document is the information necessary to develop a curriculum to teach the operation, set-up and programming of CNC Machine Tools.

## COMPETENCIES

**Based on a specific set of performance and knowledge based tasks the people successfully completing these tasks will be able to :**

### **LEVEL 1**

Tasks for the entry level operator:

- Start-up
- Program Entry
- Tool Confirmation
- Program Execution
- Machine maintenance

### **LEVEL 2 VMC**

Tasks for Entry level CNC Machinist

- Tool Set-Up
- Work Set-Up
- Program Check
- Editor
- Manual Machine Operation
- Program Restart
- Simple Programming

### **LEVEL 2 TC (Turning Center)**

Tasks for Entry level CNC Machinist

- Tool Touch Off
- Setting Work Coordinate
- Graphic Mode / Part Check
- Program Editing
- Manual Spindle Operation
- Program Writing