

# Techno Curriculum Outline

## **Basic Manufacturing Skills Curriculum: *An Introduction to CNC Machining***

### **Section 1 – Background Information**

- I. Introduction to this Manual
- II. Brief History on CNC Machining
- III. The Process of Production
- IV. CAD, CAM, CIM and CNC
- V. Advantages of CNC Machining
- VII. Understanding the Coordinate System

#### **Section 1 Test**

### **Section 2 – Before You Start Machining**

- I. Absolute and Incremental Coordinates
- II. Understanding ISO Codes
- III. Working with Files and File Formats
- IV. Selecting Cutters
- V. Spindle Speed and Feed Rate
- VI. Selecting Stock
- VII. Clamping
- VIII. Safety

#### **Section 2 Test**

### **Section 3 – Using the Techno CNC Router**

- I. Activity 1 - Cutting a Simple Part
- II. Activity 2 - Exploring the CNC Interface

#### **Section 3 Test**

### **Section 4 – Introduction to CNC Programming**

- I. Activity 3 - Using the Line Editor
- II. Activity 4 - Cutting the NC Code Part

#### **Section 4 Test**



### **Section 5 – Using a CAM Package to Make a Simple Part: Jewelry Box**

- I. Exploring the CAM Package
- II. Activity 5 - Single Tool Pass: Making the Lid
- III. Activity 6 - Multiple Tool Pass: Making the Box
- IV. Activity 7 - Engraving the Lid

#### **Section 5 Test**



### **Section 6 – Other Machining Concepts**

- I. Activity 8 - Importing Geometry from a CAD Program
- II. Activity 9 - Making a Coaster using Tabs and Spoil Boards
- III. Activity 10 - Making a Picture Frame using a Fixture

#### **Section 6 Test**



### **Getting Started Working on Your Own Terminology**