**Elgin Community College**

**Course Outline**

**IMT 0110 Intro To Computer Aided Mfg.**

**Contact Info:**

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**Prerequisite: CAD 101 and IMT 107 or MTH 107 or consent of instructor**

**Description:**

**An introduction to conversational CNC programming using Eztrak CNC mills. Conversational programming on the CNC was developed in the early 1980's and is popular in many job shops, maintenance shops and tool rooms. In these shops, parts are machined in small quantities, and jobs are changed frequently. In many cases, the part machining processes are simple, such as face milling, outer diameter (OD) and inner diameter (ID) turning and bolt-hole pattern drilling. If a machine operator can program these parts or machining processes quickly based on the mechanical drawings, productivity will be increased significantly. Therefore, effective programming is an important factor to increase productivity. 2 Credit Hours**

**Course Outline**

**A. Introduction**

**1. CNC and shop safety EZ Trak overview.**

**2. OSHA, MSDS, fire extinguisher overview.**

**3. EZ SPS software intro**

**B. Conversational CNC**

**1. Definition, examples of different methods.**

**2. Machine and axis definitions.**

**3. Cartisian coordinite system.**

**4. Setting Prat Zero.**

**5. Setting TLO.**

**6. Limit switch operation.**

**7. CNC startup.**

**C. EZ Trak Programming**

**1. SPS software intro.**

**2. Linear moves.**

**3. Drilling.**

**4. Slot milling**

**5. Bolt circle machining**

**6. Drill row and rectangle functions**

**7. Bolt circle and drill ARC functions**

**D. Advanced Functions**

**1. Cutter compensation**

**2. Using geometry help functions**

**3. Program editing.**

**Course Content Outcomes**

**Identify the best features of conversational programming.**

**Identify the benefits of conversational programming and software differences.**

**Create and run programs on an EZ Trak Conversational CNC Mill.**

**Measures of Student Performance**

**Students are expected to attend all classes. Students missing class sessions are responsible for work assigned during their absence. Excessive absences may warrant reduction of grade as appropriate.**

**Grades will be based on a combination of student performance within specified areas. Performance areas include text and related material, machining exercises and shop techniques. Drawing Accuracy, Completed Drawings, Final Exam, Attendance**

This course meets the agreed upon terminal objectives for the Computer Numerical Control Operator Program.

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