Alexandria Technical and Community College

MACH 2641: Mold Building

A. COURSE DESCRIPTION
   Credits: 5
   Lecture Hours/Week: *. *
   Lab Hours/Week: 10
   OJT Hours/Week: *. *
   Prerequisites: None
   Corequisites: MACH 2639
   MnTC Goals: None
   Learners continue to develop setup and operation skills on machine tools. Emphasis is on learning how to operate machines used in the moldmaking industry including surface grinders, CNC mills, and lathes. Learners build an injection mold as their major project. Learners also develop valuable team work skills. Corequisite: MACH2639.

B. COURSE EFFECTIVE DATES: 08/25/2003 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. Demonstrate proper shop safety using lab equipment.
   2. Learn and demonstrate proper mold making techniques using CNC machine tools.
   3. Learn and demonstrate proper mold making techniques using milling and turning machines.
   4. Learn and demonstrate proper mold making techniques using EDM machines.
   5. Learn and demonstrate proper mold making techniques using surface grinders.
   6. Demonstrate proper methods of producing graphite electrodes.
   7. Develop healthy team working principles.
   8. Demonstrate proper inspection techniques using various inspection tools.
   9. Learn and demonstrate proper polishing techniques on mold cores and cavities.
   10. Learn and produce proper gates and venting techniques.
   11. Produce a plastic injection mold in a team setting.
   12. Learn basic functions of plastic injection press.

D. LEARNING OUTCOMES (General)
   1. The learner will demonstrate quality control skills necessary to machine an injection mold.
   2. The learner will demonstrate set up and operation of an injection mold and produce plastic parts.
   3. The learner will demonstrate machine tool operations and proficiency necessary to make an injection mold.
   4. The learner will demonstrate the use of basic bench tools and machines.
   5. The learner will demonstrate CNC machining operations and proficiency necessary to make an injection mold.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted