

Minnesota State College Southeast

MACH 1650: Introduction to EDM

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will familiarize the student with operating Electrical Discharge Machining. Both sinker and wire type EDM machines will be covered in the course. (Prerequisites: MACH1601, MACH1605, MACH1610, MACH1615 or equivalent) (2 Credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 01/27/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Theory of EDM
2. Learning G & M code programming language
3. Operation of Sinker EDM machine
4. Wire Electrical Discharge Machining as applied to die making
5. Operation of Wire EDM machine
6. Safety considerations for EDM Machining

D. LEARNING OUTCOMES (General)

1. Define the EDM process
2. Analyze electrode material types
3. Calculate over-burn size
4. Identify and calculate electrode wear
5. Use technical data sheets to choose proper voltage settings on the EDM machines
6. Analyze amperage settings on the EDM machine
7. Calculate and adjust on time and off time for efficient cutting
8. Use various flushing techniques to promote efficient cutting
9. Communicate effectively using proper EDM terminology
10. Analyze and choose EDM tool holders to enhance the machining process
11. Define and calculate effective wire offset to achieve correct part size
12. Use technical data to select the proper E-pack information for the wire EDM
13. Use the technical data and control screen set-up to apply an EDM taper cut
14. Navigate and input information on the various wire EDM control screens
15. Navigate and input information on the various sinker EDM control screens
16. Perform work piece set up of clamping & indicator line-up for EDM cutting

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted