

Minnesota State College Southeast

MACH 1603: Foundations in Manufacturing

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 introduce students to the skills, technology, work environment, potential salary, and job opportunities in the fields of Welding and Metal Fabrication, Machine Tool, Mechatronics and Industrial Maintenance (Electronics, Automation Robotics, Fluid Power), Plastics Technology, Building and Carpentry trades, and Engineering CAD (Computer Aided Drafting). (Prerequisite: none)
(2 credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 06/21/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. OSHA 10 Training for Safety
2. Soft Skills for Employment Training
3. Career Exploration
4. Safety
5. Lean Principles
6. Terminology & Tools
7. Math
8. Blueprint Reading

D. LEARNING OUTCOMES (General)

1. Identify safety rules for operating machinery, including proper eye wear and clothing
2. Identify the soft skills that lead to long-term employment
3. Recognize a broad spectrum of related careers in Manufacturing
4. Demonstrate an efficient level of manufacturing math
5. Use calipers, micrometers, and dial indicators to effectively measure features
6. Interpret a blueprint of a part and identify the tools required to machine it
7. Identify the best machine to use and process steps for producing a machined part
8. Develop a proficient vocabulary of manufacturing terminology
9. Show a basic understanding of Lean Manufacturing ideas such as the 6-S program

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

Successful completion of this course equals the combination of MACH1600 Machining 101 (1 credit) plus MACH1602 OSHA 10 plus Critical Soft Skills for Employment (1 credit).