A. COURSE DESCRIPTION

Credits: 5
Lecture Hours/Week: 1
Lab Hours/Week: 4
OJT Hours/Week: *.*
Prerequisites:
This course requires the following prerequisite
MEDR 1602 - Engineering Drawing II (Number of Years Valid: 5)
Corequisites: None
MnTC Goals: None

This unit includes isometric and oblique drawings. Learners study sheet metal layouts including bend allowances and dimensioning. An introduction is given into the design of complete assemblies. Most of the learner's time is spent on a computer, which is similar to working in industry. The design process also follows industry methods. A laptop computer is required. Prerequisite: MEDR1602.

B. COURSE EFFECTIVE DATES: 12/16/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Create isometric drawings.
2. Detail isometric drawings.
3. Calculate sheet metal flat patterns.
5. Make dimensioned drawings using metric and decimal units.
6. Analyze tolerances, fits, and allowances.
7. Analyze fasteners.
8. Make construction drawings.
9. Create and analyze transitional components.
10. Analyze drawings for CNC machines.
11. Create bill of materials and part descriptions.
12. Identify and create assembly drawings.
13. Analyze hems and joints in sheet metal.
14. Analyze stages of design and design concepts.

D. LEARNING OUTCOMES (General)

1. The learner will analyze and draw isometric shapes and figures.
2. The learner will analyze, draw, and dimension isometric drawings.
3. The learner will demonstrate the skills needed to draw sheet metal parts.
4. The learner will demonstrate and apply the skills needed to draw, dimension, and layout a detailed part.
5. The learner will demonstrate, apply, and analyze the skills needed to calculate tolerances and fits between mating and non-mating parts.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted