DEPARTMENT: Computer Aided Drafting / Design Technology
CURRICULUM: Computer Aided Drafting & Design
COURSE TITLE: CAD Mechanical
COURSE NUMBER: TDR 179
TYPE OF COURSE: Technical Preparatory/
COURSE LENGTH: 1 quarter
CREDIT HOURS: 4
LECTURE HOURS: 22
LAB HOURS: 44
CLASS SIZE: 24
PREREQUISITES: TDR 123 (Drafting Technology II) and TDR 133 or instructor’s permission

COURSE DESCRIPTION:
Application of standard drafting practices to produce Mechanical parts, Detail and Assembly production drawings.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Communication - Read and translate technical data relative to geometric spatial relationships into a graphical form easily understood by others with similar technical understanding.
2. Computation - Use basic mathematical operations as required to define geometrical spatial relationships.
3. Human Relations - Use social interactive skills to enhance learning through informal tutoring activities.
STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

4. Critical Thinking and Problem Solving - Organize and evaluate technical data, as well as select and apply appropriate spatial relationship principles to determine problem solution.
5. Technology - Select and use appropriate technological tools to create technical graphics.
6. Personal Responsibility - Value and take pride in one’s own skill and work, and manage time to meet required schedules.
7. Information Literacy - Access, evaluate and apply information from technical texts.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Describe the usual format for working drawings.
2. Identify the purpose(s), content, and usual location on working drawings for the following:
   A. Title block
   B. Parts list
   C. Revision block
   D. General notes
   E. Usage block
3. Apply standard drafting practices to produce working detail drawings, and assembly/installation drawings.
4. Define the characteristic of a spur gear, worm gear, and bevel gear.
5. Calculate the gear ratio and rpm of two mating gears, given the pitch diameters, and draw a spur gear.
6. Identify welding symbols used in steel fabrication.

TOPICAL OUTLINE:                   APPROX. HOURS

I. Working drawing assembly/installation  24
II. Working drawing detail              18
III. Gearing and Cams                 18
IV. Welding Symbols                   6

Total 66

REVISED BY: L. Nguyen