COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1222: Dimensioning and Tolerancing

A. CATALOG DESCRIPTION
1. Credits: 2
2. Hours/Week: 1 hour lecture/2 hour's lab
3. Prerequisites (Course discipline/number): CAD 1039, CAD 1200, CAD 1220, CAD 1221 or instructor's permission
4. Co-requisites (Course discipline/number): CAD 1120, CAD 1123, CAD 1150, CAD 1323
5. MnTC Goals (if any): NA

This course provides an introduction to the fundamentals of geometric dimensioning and tolerancing of engineering drawings. The student will become familiar with basic dimensioning standards and conventions and learn to apply them to drawings. The proper use of a variety of tolerancing techniques will be practiced including both conventional and geometric tolerancing. This course will be taught in a state-of-the-art facility featuring the latest release of SolidWorks.

B. DATE LAST REVISED (Month, year): April, 2013

C. OUTLINE OF MAJOR CONTENT AREAS:
1. Basic Blueprint reading
2. Dimensioning standards and conventions
3. Conventional tolerancing calculations
4. Basic hole/shaft calculations
5. Standard ANSI and metric fits
6. Geometric dimensioning and tolerancing

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Develop working knowledge of dimensioning and tolerancing for detailed drawings.
2. Use conventional dimensioning techniques to describe engineering drawings.
3. Evaluate the correct placement of dimensions and notes on drawings.
4. Specify tolerances in a variety of formats including limits and plus/minus.
5. Determine dimensions for mating parts based on ANSI and Metric fits.
6. Describe the basic hole and shaft systems
7. Identify the geometric tolerancing symbols and describe how each is used.
8. Demonstrate the proper use of geometric tolerancing symbols in a variety of working drawing.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
1. Evaluation of electronic files
2. Skill proficiency exercises
3. Quizzes
4. Exams

G. RCTC CORE OUTCOME(S) ADDRESSED:
☐ Communication  ☑ Civic Responsibility
☐ Critical Thinking  ☑ Personal/Professional Accountability
☐ Global Awareness/Diversity  ☑ Aesthetic Response

H. SPECIAL INFORMATION (if any): Tuition differential