COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1224: Engineering Drafting I

A. CATALOG DESCRIPTION
1. Credits: 2
2. Hours/Week: 0 hours lecture 4 hours lab
3. Prerequisites (Course discipline/number): None
4. Co-requisites (Course discipline/number): CAD 1230, CAD 1234
5. MnTC Goals (if any): NA

This course is a basic class in engineering drafting which is designed to provide working knowledge of the industry’s graphic language, as well as fundamental skills of freehand sketching and detailed drawing using AutoCAD. Geometric construction, projections drawing theory, the multiview system, auxiliary and section views, and projections will be covered. All CAD courses will be taught in a state-of-the-art facility featuring the latest release of AutoCAD.

B. DATE LAST REVISED (Month, year): April, 2010

C. OUTLINE OF MAJOR CONTENT AREAS:
1. History and Equipment of Engineering Drafting
2. Introduction to Graphic Language
3. Geometric construction
4. Shape Description and Technical Sketching
5. Orthographic Projection and Multiview System
6. Cutting Planes and Sectional Views
7. Reproduction and Control of Drawings
8. Dimensioning standards and conventions

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Demonstrate how to read and measure drawings and scales.
2. Determine the proper paper size.
3. Understand basic shapes and their construction.
4. Understand the concepts of projection, multiview systems and sectional views.
5. Understand basic drawing reproduction and the importance of controlling the drawing.
6. Define drafting terms.
7. Demonstrate third angle projection.
8. Create orthographic drawings using CAD.
9. Dimension manufactured parts using CAD.
10. Produce complete section views in CAD.

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. SPECIAL INFORMATION (if any):
Tuition differential