

Course discipline/number/title: CAD 1220: Engineering Drafting

A. CATALOG DESCRIPTION

1. Credits: 3
2. Hours/Week: 1 lecture, 4 lab
3. Prerequisites (Course discipline/number): None
4. 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 and detailed drawing using SolidWorks. Geometric construction, projections drawing theory, the multi-view system, auxiliary and section views, and projections will be covered. This course will be taught in a state-of-the-art facility featuring the latest release of SolidWorks.

B. DATE LAST REVISED (Month, year): October, 2017

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 Multi-view System
6. Cutting Planes and Sectional Views
7. Reproduction and Control of Drawings
8. Screw Threads, Springs and Common Fasteners

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. Identify basic shapes and their construction.
4. Define the concepts of projection, multi-view systems and sectional views.
5. Demonstrate 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.
11. Demonstrate a basic understanding of screw threads and common fasteners.
12. Identify and draw various fasteners and springs.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:

Methods may include but not limited to:

1. Projects
2. Examinations
3. Assignments

G. RCTC CORE OUTCOME(S) ADDRESSED:

Personal and Professional Accountability. Students will take responsibility as active learners for achieving their educational and personal goals.

H. SPECIAL INFORMATION (if any): None