Course Title: Basic Blueprint Reading
Prefix and Course Number: CAD 120

Course Learning Outcomes:

By the end of this course, a student should be able to:
- Interpret detail drawings, assembly drawings, schematics, and sketches
- Interpret symbols, dimensions, and tolerances
- Develop personal and career goals for success in college and industry
- Generate a variety of freehand sketches
- Freehand letter vertically and inclined in engineering format

Course Outline:

I. The Engineering Profession
   A. Careers and Opportunities
   B. Engineering Positions
   C. Engineering Ethics
   D. Effects of the Global Economy

II. Lines
   A. The Alphabet of Lines
   B. Hidden Lines and Center Lines
   C. Projection Lines, Other Lines, and Line Combinations

III. Views
   A. Three View (Orthographic) Drawings
   B. Arrangement of Views
   C. Two View Drawings
   D. One View Drawings
   E. Auxiliary Views

IV. Freehand Lettering
   A. Vertical Lettering
   B. Inclined Lettering

V. Design for Success – Student Success Skills
   A. Setting personal goals
   B. Career planning

VI. Dimension and Notes
   A. Size and Location Dimensions
   B. Dimensioning Standards
   C. Tolerances

VII. The Metric System
   A. Dimensioning, Diametric Dimensions, and ISO Symbols
   B. First Angle/Third Angle Projection and Dimensioning

VIII. Section Views and Auxiliary Views
   A. Cutting Planes
   B. Full Sections
   C. Section Lining (Hatch Lines)
   D. Half Sections
   E. Partial Sections
   F. Assembly Section Drawings

IX. Shop Sketching: Pictorial Drawings
   A. Orthographic
   B. Oblique
   C. Isometric
   D. Perspectives
   E. Pictorial Drawings with Dimensions

X. Machine Symbols, Measuring, Threads & Fasteners
A. Machine marks, standards
B. Thread Callouts/Standards and Fasteners