**ENGR 102 – Engineering Graphics & Design**

**Competencies**

Understand general Design Process and purpose for technical drawing

Draw distinct line types

Understand and demonstrate drawing scale

Write with standard straight-line lettering

Plan for a correctly laid out drawing that best utilizes the paper space

Technical sketching:

drawing freehand objects from observation (cups, chairs, household items, etc)

approximating straight lines, circles, ellipses

blocking out object shapes

Draw objects in different projections (orthographic, oblique, isometric)

Draw fairly accurate geometric constructions (circles, ellipses, tangents, etc)

Complete orthographic multi-view drawings

Deduce missing or unfinished multiviews

Identify and draw common manufacturing features (counterbore, spotface, chamfer, etc)

Draw full- and half-section views of parts

Draw organized dimensions with extension lines

Understand tolerance basics

Demonstrate one-point and two-point perspective for simple parts