

# MFG 119M : MECHANICAL DRAWING TECHNIQUES

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## Transcript title

Mechanical Drawing Techniques

## Credits

4

## Grading mode

Standard letter grades

## Total contact hours

80

## Other hours

80

## Course Description

Introduces Mechanical Drawing Techniques used in design and manufacturing. Includes practical applications using drafting techniques to capture design intent through part development and to create assemblies using these parts. Adheres to engineering and manufacturing standards and formats.

## Course learning outcomes

1. Apply engineering and manufacturing standards in the preparation of technical mechanical drawings.
2. Demonstrate basic geometrical relationships; parallelism, perpendicularity, angularity, co-linearity and concentricity using standard measurement units used in industry, inches and millimeters, and expression of fractional and decimal values.
3. Draft objects using standard Mechanical Drawing techniques proceeding from basic sketching techniques to the creation of extrusions, cuts, rotations, patterns and sweeps.
4. Demonstrate a methodical and progressive use of drafting functions to capture the design intent of the solid model and to utilize drafting in the creation of a model that can evolve with the design process.
5. Organize and manage drawings, sub-assembly and assembly drawings in relationship with Isometric, Orthographic and Multiview drawings.
6. Create cross section, half section, and dimensioning of models with assemblies.

## Content outline

- Intro to Sketching and Basic Part Design
- Intermediate Part and Assembly Design
- Parametric Design
- Drawings
- Part Modeling
- Assembly Modeling
- Drawings Preparation

## Required materials

This class may require the purchase of online tutorial services to supplement and support other in house course materials.