MFG 115 : DESIGN PROCESSES I

Transcript title

Design Processes I

Credits

4

Grading mode

Standard letter grades

Total contact hours

80

Other hours

80

Recommended preparation

CIS 120.

Course Description

Introduces solid modeling software (CAD) used in design and manufacturing. Includes practical applications using the software 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. Model solid objects using standard Computer Aided Design (CAD) software proceeding from basic sketching techniques to the creation of solid features through the use of extrusions, cuts, rotations, patterns and sweeps.
4. Demonstrate a methodical and progressive use of CAD functions to capture the design intent of the solid model and to utilize parametric modeling in the creation of a solid model that can evolve with the design process.
5. Organize and manage part, sub-assembly and assembly properties and relationships within a solid model drawing.
6. Create exploded configurations and animations of solid models with sub-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.