IC140 Graphics for Design

Credit: 2-0-3-4

Prerequisite: Consent of the faculty member

Students intended for: B.Tech

Elective or Core: Core Semester: Even/Odd

Course objective: To teach basic concepts of engineering drawing with emphasis on improving students' imagination.

Course content

- General: Introduction to design process and drawings, sheet layout, line symbols, line groups, preferred scales, reference planes and quadrants, technical sketching; dimensioning, tools of dimensioning, size and position dimensions. Freehand sketching and mechanical drafting. [2 Lectures; 1 Practical]
- Introduction to CAD software for the creation of 3D models and 2D engineering drawings. (Take home assignments will continue throughout the semester) [4 Lectures, 2 Practical]
- Projections: Types of projections, theory of orthographic projections, projection of points, lines; oblique planes. (Free hand / Solid Works) [2 Lectures, 1 Practical]
- Projection of plane figures. (MD/Solid Works) [2 Lectures, 1 Practical]
- Projection of solids and sections. (MD/Solid Works) [2 Lectures; 1 Practical]
- Development of solids (MD/Solid Works) [2 Lectures; 1 Practical]
- Intersection of surfaces (MD/Solid Works) [2 Lectures; 1 Practical]
- Sketching of orthographic views from pictorial views. [2 Lectures; 1 Practical]
- Missing Line, Missing View Exercises (Free hand/Solid Works) [2 Lectures; 1 Practical]
- Pictorial Views: Isometric and oblique views from multi-planar orthographic views. (Free hand/Solid Works) [2 Lectures; 1 Practical]
- Limits, fits and tolerances; Schematic and process flow diagrams; standard equipment and symbols. [2 Lectures; 1 Practical]
- Instrumentation and control diagrams; flow charts. [2 Lectures; 1 Practical]