

MECH 114 COMPUTER AIDED ENGINEERING DRAWING II

Course Code:	3650114
METU Credit	3(2-2)
ECTS Credit:	4.5
Department:	Mechanical Engineering
Language of Instruction:	English
Level of Study:	Undergraduate
Course Coordinator:	Instr. Dr. Murat Sönmez
Offered Semester:	Spring Semesters.
Prerequisite:	MECH 113 with min. DD

Course Objective

In this course, mainly it is aimed to provide students with geometrical tolerancing, surface symbols, the simplified, standard representation of common machine elements, CAD applications, working and assembly drawings, assembly modeling and CAD representations, animation, sheet metal drawing.

Course Content

Geometric Tolerances; Feature control frame, tolerance zones, Symbols, Flatness, Straightness, Circularity, Concentricity, Position Control, Profile Tolerancing, Run-out Control, Datums and datum features, Applications in AutoCAD and AutoDesk Inventor environments, Surface Texture; Characteristics, symbols and annotation methods, Threaded Fasteners; Simplified Thread Representation, Common Threaded Fasteners, Applications in AutoCAD and AutoDesk Inventor environments, Keys, Splines, Pins, Retaining Rings, Rivets, Springs, Simplified Representations, CAD applications, Common Loci; Sicloid, Involute, Gears; Gear Terminology, Spur Gears, Helical Gears, Bevel Gears, Racks, Worm Gears, Chain Drives, Working Drawings of gears, CAD Applications, Bearings; Plain Bearings, Roller Bearings, Cams; Follower-Cam mechanism, Displacement Diagram, Detail (Working) Drawing and Assembly Drawings; Assembly Modeling in AutoDesk Inventor Environment, Animation, Welding Drawings; Welding Symbols, Introduction to Descriptive Geometry; Intersections and Developments, Sheet Metal Drawing.

Learning Outcomes

The students are expected to acquire the ability to draw and read the standard drawings of common machine elements and working and assembly drawings in 2 and 3 Dimensional CAD environments; (particularly in AutoCAD Mechanical and AutoDesk Inventor).