Lesson Plan

Name of faculty:- Sh.Neeraj Sangwan

Discipline:- Mech.Engg.

Semester:-4th

Subject:-CAD

lesson plan duration :- 16 weeks (from 06 March 2023 to 23 June 2023*)*

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| WEEK | DAY | PRACTICAL TOPIC |
| Week 1 | Day 1 | Introduction to Computer Aided Drafting (2D) commands of any one software (Auto  CAD, Pro E, Solid works, Uni graphics etc.) |
| Day 2 | Concept of AutoCAD, Tool bars in CAD software, coordinate system, snap,  grid, and ortho mode (Absolute, Relative and Polar), setting of units and layout. |
| Week 2 | Day 1 | Drawing commands – point, line, arc, circle, ellipse, 1.3 Editing commands – scale, erase, copy, stretch, lengthen and explode. |
| Day 2 | Dimensioning and placing text in drawing area |
| Week 3 | Day 1 | Sectioning and hatching |
| Day 2 | Inquiry for different parameters of drawing entity |
| Week 4 | Day 1 | Create layers within a drawing |
| Day 2 | Specifying Geometrical Dimensioning & tolerancing (GD&T) parameters in drawing |
| Week 5 | Day 1 | Detail and assembly drawing of the following using Drafting Software (2D)  Plummer Block |
| Day 2 | Wall Bracket |
| Week 6 | Day 1 | Stepped pulley, V-belt pulley  Flanged coupling |
| Day 2 | Machine tool Holder (Three views) |
| Week 7 | Day 1 | Screw jack, joints, crank shaft and piston |
| Day 2 | Isometric Drawing by CAD using any part modeling Software (3D)  Drawings of following on computer: Cone |
| Week 8 | Day 1 | cylinder |
| Day 2 | Cube, springs |
| Week 9 | Day 1 | Isometric view of objects |
| Day 2 | Introduction to any part modeling software(ProE, Solid works, AutoCAD, Uni Graphic , Catia etc.) |
| Week 10 | Day 1 | Introduction to Sketcher: Sketch Entities, Sketch Tools, Blocks, Dimensioning |
| Day 2 | Part Modeling Tools  Creating reference planes |
| Week 11 | Day 1 | Creating Extrude features Creating Revolve Creating Swept features  Creating Loft features |
| Day 2 | Creating Reference - points, axis, coordinates  Creating curves  Creating Fillet features |
| Week 12 | Day 1 | Inserting Hole types  Creating Chamfer  Creating Shell  Creating Rib |
| Day 2 | Environment& Utilities - Working with views and manipulating views  Create parts e.g. Piston, Pin, Bolts and Nuts, Fixture, Jig parts, Washer, Rings, Gaskets, Machine parts etc. |
| Week 13 | Day 1 | Assembly and Simulation  Assembly Modeling Tools |
| Day 2 | Introduction to Assembly Modeling & Approaches |
| Week 14 | Day 1 | Top down and Bottom up approach, Applying Standard Mates- Coincident, Parallel, Perpendicular, Tangent |
| Day 2 | Concentric, Lock, Distance, Angle. Assemble of any two Mechanism |
| Week 15 | Day 1 | Crank slider mechanism, Piston and Cylinder assembly, Quick Return Mechanism |
| Day 2 | Machine vices, |
| Week 16 | Day 1 | Crank Shaft |
| Day 2 | Bearing assembly, any other mechanism |