LESSON PLAN

Academic Session: Aug-Dec 2024

Program Name	Computer Engg.
Subject Name	Engineering Graphics
Subject Code	ES101
Semester	1st
Subject Co-ordinator name	Vivek Sharma

Evaluation Scheme

Sr. No.	Category Of Course	Code No.	Course Title	Hours/ Week			Total Hours/ Week	Credits	Evaluation Scheme						
									Internal		External				
				L	P	DCS			Th	Pr	Th.	Hrs.	Pr	Hrs	Total
1	Engineering Graphics	ES101	Engg. Graphics	0	3	1	4	1.5		40	60	3		3	100

Reference Books	1) Engineering Drawing, Dhanpat Ray &Co. author Surjeet Singh.
	2) Dhawan, R. K. Engineering Drawing. S. Chand and Company, New Delhi; ISBN:81-219-1431-0.
	3) Jain & Gautam, Engineering Graphics & Design, Khanna Publishing House, New Delhi (ISBN: 978- 93-86173-478].

Courses Outcomes (Cos)

CO-1	To understand the language of graphics which is used to express ideas, convey instructions while carrying out engineering jobs.
CO-2	To develop skills to visualize actual object or a part of it, on the basis of drawings.
CO-3	To develop skills to translate ideas into sketches and to draw and read various engineering curves, projections and dimensioning styles.
CO-4	To understand the basic commands and develop basic skills related to computer aided drafting, of how to draw, modify, and edit basic shapes (2D), using AUTOCAD.

Teaching Plan

Unit No.	Name of Topic	Proposed Date	Actual Date	Signature	Remarks
1	Drawing Instruments and supporting materials: method to use them with applications.	08/08/24			
	Convention of lines and their applications.	09/08/24			
	Representative Fractions – reduced, enlarged and full size scales	16/08/24			
	Plain Scale	23/08/24			
	Diagonal Scale	29/08/24			
	Dimensioning techniques as per SP-46:2003 – types and applications of chain	30/08/24			
	Parallel and coordinate dimensioning.	05/09/24			

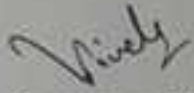|					
2	Introduction of projections-orthographic perspective, isometric and oblique:	06/09/24 12/09/24			
	Introduction to orthographic projection First angle and Third angle method	13/09/24			
	Conversion of pictorial view into Orthographic Views	19/09/24			
	object containing plain surfaces, slanting surfaces	20/09/24			
	Slots, ribs, cylindrical surfaces. (use First Angle Projection method only)	26/09/24			
3	Introduction to isometric projections. Isometric scale and Natural scale	27/09/24			
	Isometric view and isometric projection.	03/10/24			
	Illustrative problems related to objects containing lines,	04/10/24			
	Circles and arcs shape only. Conversion of orthographic views into isometric view/projection.	10/10/24 11/10/24			
4	Free hand sketches of machine elements: Thread profiles	18/10/24			
	nuts, bolts, studs, set screws, washer, Locking arrangements.	24/10/24			
	Free hand sketches of orthographic view (on squared graph paper) isometric view (on isometric grid paper).	25/10/24 07/11/24			
5	Computer Aided Drafting: concept. Hardware and various CAD software available System requirements and Understanding the interface. Components of AutoCAD software window	08/11/24			
	Title bar, standard tool bar, menu bar, object properties tool bar, draw tool bar, modify tool bar, cursor cross hair. Command window, status bar, drawing area, UCS icon. File features: New file, Saving the file, opening an existing drawing file, Creating templates, Quit. Setting up new drawing: Units, Limits, Grid, Snap. Undoing and redoing action	14/11/24 21/11/24			
6	Draw basic entities like Line, Circle, Arc, Polygon, Ellipse, Rectangle, Multiline, Polyline. Method of Specifying points: Absolute coordinates, Relative Cartesian and Polar coordinates.	22/11/24			
	Modify and edit commands like trim, extend, delete, copy, offset, array, block, layers. Dimensioning: Linear, Horizontal Vertical	28/11/24			
	Aligned, Rotated, Baseline, Continuous, Diameter, Radius, Angular Dimensions. Dim scale variable. Editing dimensions. Text: Single line Text, Multiline text.	29/11/24			

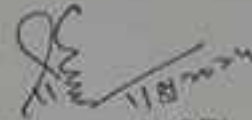| Sr. No.	Sheet Exercises	Proposed Date	Actual Date	Remarks
1	Draw horizontal, Vertical, 30 degrees, 45 degrees, 60 and 75 degrees lines, different types of lines, dimensioning styles using Tee and Set squares/drafter.	08/08/24		
2	Write alphabets and numerical in 7:4 scale (Vertical only) (do this exercise in sketch book).	09/08/24		
3	Draw some problems on Engineering Plain and diagonal scale.	29/08/24		
4	Draw some problems on orthographic projections using first angle method of projection having plain and slanting, cylindrical surfaces, ribs and slots.	13/09/24		
5	Draw some problems on Isometric view of simple objects having plain and slanting and cylindrical surface (e.g. Cube, Cone and cylinder etc.) by using natural scale.	10/10/24		
6	Draw free hand sketches/ conventional representation of machine elements in sketch book such as thread profiles, nuts, bolts, studs, set screws, washers, Locking arrangements.	24/10/24		
7	Problem based Learning: Given the orthographic views of at least three objects with few missing lines, the student will try to imagine the corresponding objects, complete the views and draw these views in sketch book.	10/11/24		
8	Draw basic 2D entities like: Rectangle, Rhombus, Polygon using AutoCAD (Print out should be a part of progressive assessment).	14/11/24		
9	Draw basic 2D entities like: Circles, Arcs, circular using AutoCAD (Printout should be a part of progressive assessment).	21/11/24		
10	Draw basic 2D entities like: Circular and rectangular array using AutoCAD (Printout should be a part of progressive assessment).	22/11/24		
11	Draw blocks of 2D entities comprises of Rectangle, Rhombus, Polygon, Circles, Arcs, circular and rectangular array, blocks using AutoCAD (Print out should be a part of progressive assessment).	28/11/24		
12	Draw basic branch specific components in 2D using AutoCAD (Print out should be a part of term work).	29/11/24		

Vinoth

House Test/Class Test

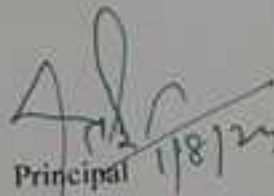| Name of Test	Contents of syllabus Covered	Proposed Date	Actual Date	Signature	Remarks
Class Test-1	Unit(I-II)	As per HPTSB			
Class Test-2	Unit (III-V)	Academic			
House Test	Unit(I- V)	Calender			

(Signature of Teacher)

(Signature of HOD)

Approved

Principal

Govt. Polytechnic for Women Rehan

Distt-Kangra (H.P)