



Course Title: Engineering Graphics Lab

Credit Units: 01

Course Level: UG

Course Code: ES104

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
-	-	2	-	1

Course Objectives: This course will provide students concepts on the drawings of different curves like straight line, parabola, ellipse etc. After completion of this course, students will be able to draw different figures manually and will be capable of using various instruments involved in drawings.

Pre-requisites: Concepts Mathematics (especially Trigonometry and Geometry)

Student Learning Outcomes:

On completion of the course the student will be able to:

1. Acquire knowledge on the fundamentals of engineering drawing and units.
2. Demonstrate proficiency with a metric and engineer scales.
3. Demonstrate the proper use of drawing equipment.
4. Ability to develop and/or comprehend a simple engineering drawing.
5. Ability to draw in both First and Third angle orthographic projections
6. Understand the meaning of sections and cutting-plane lines.
7. Understand international standards in engineering drawing practice and engineering graphics.

Pedagogy for Course Delivery:

The course pedagogy will include lectures, problem solving on drawing sheets in classroom and drawing assignments

Lab/ Practicals details, if applicable:

List of Drawing Sheets

Sheet no. 1- Lettering And Dimensioning

Single stroke, vertical and inclined capital letters, numerals, types of conventional lines, types of dimensioning

Sheet no.2- Geometrical Constructions

Construction of basic geometrical figures like pentagon, hexagon, conic sections by different methods.

Sheet no. 3- Scales

Construction of plain scale, diagonal scale and scale of chord.

Sheet no. 4- Projection of Points And Lines

Orthographic projection of points and lines in different angles of projection.

Sheet no. 5- Projection of Planes

Orthographic projection of planes like pentagon, hexagon, circle, rectangle etc. in 1st angle and 3rd angle.

Sheet no. 6- Projection of Solids

Orthographic projection of polyhedra and solids of revolution in 1st angle and 3rd angle.

Sheet no. 7- Section of Solids

Drawing sectional views and true shape of section for different solids.

Sheet no. 8- Development of Surfaces

Drawing developments of different solids by parallel line and radial line development method.

Sheet no. 9- Isometric Projection

Isometric views of plane figures and solids by box method

Sheet no. 10- Orthographic Projection of Blocks

Drawing orthographic projection of different blocks in 1st angle and 3rd angle.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	Total
Nil	100%	100%

Lab/ Practical/ Studio Assessment:

Components (Drop down)	Continuous Assessment/Internal Assessment				End Term Examination	
	A	PR	LR	V	PR	V
Weightage (%)	5	10	10	5	35	35

Text & References:

Text Books:

- PS Gill, Engineering Drawing, Kataria Publication
- ND Bhatt, Engineering Drawing, Charotar publications

Reference Books:

- M.B. Shah & B.C. Rana, Engineering Drawing, Pearson Education, 2007
- N Sidheshwar, Engineering Drawing, Tata McGraw Hill
- CL Tanta, Mechanical Drawing, “Dhanpat Rai and Sons”