COURSE TITLE	**ENGINEERING DRAWING**
COURSE CODE	**01ME1103**
COURSE CREDITS	**4**

Objective:

1 Engineering Graphics is the language of engineering. It is the fundamental core skill enhances problem solving ability which improves the engineering knowledge. Moreover,
it is creating link between imagination and realization.

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Course Outcomes: After completion of this course, student will be able to:

1 Students will be able to recognize and use basic drawing instruments and standards to create precise engineering drawings.

2 Students will be able to construct essential engineering curves and identify their applications in deign tasks.

3 Students will be able to analyze and represent the projections of points and lines on principal planes accurately.

4 Students will be able to interpret and draw projections of basic plane surfaces.

5 Students will be able to develop orthographic projections using first and third-angle methods and differentiate between them.

6 Students will be able to convert basic orthographic views into isometric views and understand their distinctions.

Pre-requisite of course: Zeal to learn the subject.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	4	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	**Introduction** Drawing instruments and accessories, Standards of Engineering Drawings, Plain scales, diagonal scale	2
2	**Engineering Curves** Introduction to engineering curves with classification and application, Construction of Ellipse, Construction of Parabola, Construction of Hyperbola, Construction of Involutes and Spirals, Construction of Cycloidal, Normal and tangent to the curve	7

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Contents : Unit	Topics	Contact Hours
3	**Projections of Points and Lines** Introduction to principal planes, Point projection located in same and different quadrants, Line projection with inclination to one RP, Line projection with inclination to two RP, True length of Line	7
4	**Projections of Planes** Projection of Polygons, Circle and ellipse with inclination to one RP, Circle and ellipse with inclination to two RP, Method for projection of plane surfaces	6
5	**Orthographics** Introduction to Orthographic Projection, Plane of Projection. Projection of the object on the principal plane, Front view, Top view and sides view using First and Third angle Projection methods, Sectional Orthographic	2
6	**Isometric** Isometric View, Conversion of Orthographic view to isometric view, Difference between Isometric View and Projection	2
Total Hours		**26**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Practice sheet** Practice sheet	4
2	**Scale (Plane and Diagonal Scale)** Scale (Plane and Diagonal Scale)	2
3	**Curves** Curves	6
4	**Projection of Straight line and Projection of plane surfaces** Projection of Straight line and Projection of plane surfaces	10
5	**Orthographic projection and Sectional Orthographic projection** Orthographic projection and Sectional Orthographic projection	6
6	**Computer Aided Design** Computer Aided Design	12
7	**Isometric projection and Isometric View** Isometric projection and Isometric View	6
Total Hours		**46**

Textbook :

1 Engineering Graphics by Ramdevsinh Jhala Tata McGraw Hill, New Delhi, Ramdevsinh Jhala, Tata McGraw Hill, -

References:

1 A Text Book of Engineering Graphics, A Text Book of Engineering Graphics, P.J.Shah, S.Chand & Company Ltd., New Delhi, -

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References:

2 Elementary Engineering Drawing , Elementary Engineering Drawing , N.D.Bhatt, Charotar Publishing House, Anand, -

3 A text book of Engineering Drawing by P.S.Gill, S.K.Kataria & sons, Delhi., A text book of Engineering Drawing by P.S.Gill, S.K.Kataria & sons, Delhi., P.S.Gill, , S.K.Kataria & sons,, -

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
14.00	22.00	22.00	14.00	14.00	14.00

Instructional Method:

1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming

2 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses

Supplementary Resources:

1 https://archive.nptel.ac.in/courses/112/103/112103019/

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