Course Number and Name

BME 102 - ENGINEERING GRAPHICS

Credits and Contact Hours

3 & 45

Course Coordinator's Name

Mr Karthik

Text Books and References

TEXT BOOKS:

1. N.D.Bhatt and V.M.Panchal, "Engineering drawing", charotar publishing house, 50th edition, 2010.
2. K.V.Natarajan "A Text book of Engineering Graphics",Dhanalakshmi Publishers, Chennai, 2009.

REFERENCES:

1. K.R.Gopalakrishna, "Engineering drawing",(Vol-I & II combined)Subhas stores, Bangalore,2007.
2. K.Venugopal and V. PrabhuRaja, "Engineering Graphics",New age International Private limited,2008.
3. Luzzader, Warren.J., and Duff, John.M.,, "Fundamentals of Engineering Drawing with an introduction to Interactive computer graphics for design and production", Eastern economy edition,Prentice Hall of India Pvt Ltd,New Delhi,2005

Course Description

To understand techniques of drawings in various fields of engineering

Prerequisites	**Co-requisites**
+2 maths , +2 physics	Mathematics I

required, elective, or selected elective (as per Table 5-1)

Required

Course Outcomes (COs)

CO1 :To know about different types of lines & use of different types of pencils in an engg. Drawing

CO2 :To know how to represents letters & numbers in drawing sheet

CO3 :To know about different types of projection

CO4 :To know projection of points ,straight lines, solids etc.

CO5 :To know development of different types of surfaces.

CO6 :To know about isometric projection.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	J	k
CO1	H										
CO2	M	H									
CO3			L								
CO4						L		H	H		
CO5			L						H		
CO6			L							H	

List of Topics Covered

UNIT-I Basic Curves, Projection of points and Straight lines 9

Conics-construction of ellipse, parabola and hyperbola by eccentricity method - construction of involutes of square and circle-Drawing of tangent and normal to the above curves-Scales-Basic drawing conventions and standards-Orthographic projection principles- Principal planes-First angle projection- Projection of points. Projection of straight lines (only first angle projections) inclined to both the principal planes- Determination of true lengths and true inclinations by rotating line method.

UNIT-II Projections of Planes and solids 9

Projection of planes (Polygonal and circular surfaces) inclined to both the principal planes. Projection of simple solids like prisms, pyramids, cylinder, cone and truncated solids when the axis is inclined to one of the principal planes by rotating object method

UNIT-III Orthographic Projections, Isometric projections & Free hand sketching 9

Orthographic projection of Simple parts from 3D diagram-Principles of isometric projection and isometric view-isometric scale- Isometric projections of simple solids and truncated solids-Prisms, pyramids, cylinders, cones.

UNIT-IV Projection of Sectioned solids and development of surfaces 9

Sectioning of solids in simple vertical position when the cutting plane is inclined to the one of the principal planes and perpendicular to the other-obtaining true shape of section. Development of lateral surfaces of simple and sectioned solids- Prisms, pyramids cylinders and cones.

UNIT-V Perspective projection, building drawing and Computer aided drafting 9

Perspective projection of cubes and cylinders by visual ray method. Introduction- components of simple residential or office building-specifications-plan and elevation of different types of Residential buildings and office buildings. Introduction to drafting packages and basic commands used in AUTO CAD. Demonstration of drafting packages.