

No.	Title		
1.	Subject	Coordinate Geometry	
2.	Subject Code	KE016	
3.	Status	Major	
4.	Credit Hours	Four (4) [(1.5L + 1T) x 14 weeks]	
5.	Semester and Year	Semester 3	
6.	Pre-requisite	-	
7.	Mode of Delivery	Lectures and tutorials	
8.	Assessment	Assignments/Class Test	40%
		Final Examination	60%
9.	Objectives	To provide basic understanding and application on geometry coordinates.	
10.	Learning Outcomes	<p>Upon the completion of the unit, the students will be able to:</p> <ol style="list-style-type: none"> 1. Understand and apply the equations governing common loci. 2. Convert Cartesian coordinates to polar coordinates and vice-versa. 3. Appreciate the application of spherical and cylindrical polar coordinates in 3 dimensional systems. 	
11.	Details of subject	Contents	Hours
		Chapter 1: Coordinates of Cartesian Planes	
		Distance and area in two dimensions: Distance between two points. Dividing a line segment in a given ratio. Angle between two straight lines. Distance of a point from a straight line. Area of a triangle via Cartesian co-ordinates.	4.5L 3T
		Chapter 2: Loci and simple curves	
		Introduction to loci. Intersection of two loci. Circles. Parabola. Ellipse. Hyperbola. Intersection of a straight line and a circle.	4.5L 3T
		Chapter 3: Parametric representation of a point on a circle.	1.5L 1T
		Chapter 4: Polar co-ordinates	
		The link between Cartesian and Polar Co-ordinates. Curves in Polar form.	4.5L 3T
		Chapter 5: Three dimensional geometry	
		Distance between two points. Equation of a line in three dimensions. The equation of a plane. Cylindrical Co-ordinate systems. Spherical Co-ordinate systems.	6L 4T
		Total	L = 21 hrs T = 14 hrs 56 hours

12.	Main Reference	<ol style="list-style-type: none">1. Mustoe, L. R., and Barry, M. D. J. (1998). <i>Foundation Mathematics</i>. John Wiley & Sons.2. Perkins, M., and Perkins, P. (1991). <i>Advanced Mathematics: A Pure Course</i>. Glasgow, UK: Collins Educational, Harper Collins Publishers.
13.	Additional Reference	<ol style="list-style-type: none">1. James, G. (2000). <i>Modern Engineering Mathematics</i> (2nd ed.). Addison-Wesley.
14.	Practical/Lab Classes	Not applicable

