MHZ3552 Engineering Mathematics II

Course Code Course Title Course	3 MHZ3552
Course Title	
	Engineering Mathematics II
Credit value	Engineering Mathematics II 5
Core/Optional (Core
	To provide the knowledge in vectors, algebra, probability and statistics, numerical
=	methods, and hydrostatics to solve Engineering problems.
	At the completion of this course student will be able to
Outcomes (CLO):	At the completion of this course student will be usic to
	CLO1: Explain and apply the basic concepts of descriptive statistics, probability and distribution theory to real life situations.
	CLO2: Compile and evaluate statistical reports.
	CLO3: Compute (Scalar Product, Vector Product and triple scalar product) and apply vectors to solve geometrical problems.
	CLO4: Solve dynamic problems using vectors and space curves.
	CLO5: Verify properties of complex numbers; apply D' Movier's theorem to obtain trigonometric identities and compute the powers of the complex numbers.
	CLO6: Apply theorems of limits to determine the continuity of complex functions and illustrate the image of a complex mapping.
	CLO7: Solve non- linear equations, systems of linear equations, and compute derivatives and integrals using numerical methods.
	CLO8: Express differentiable functions in the form of a power series and Taylor series; use such expressions to obtain approximate solutions.
	CLO9: Express periodic functions as Fourier series and determine their convergence.
	CLO10: Solve first and higher order differential equations using analytical techniques including Laplace Transformations.
	CLO11: Solve system of linear equations and sketch complex functions using software
	tools.
Content	Outline Syllabus:
Content	Outline Synabus.
	Unit 1: Introduction to Statistics
	Unit 2: Introduction to Probability
	Unit 3: Distribution Theory
	Unit 4: Vector Algebra
	Unit 5: Vector Functions and space curves
1	Unit 6: Complex numbers
l	Unit 7: Function on Complex variables
ı	Unit 8: Introduction to Numerical Methods
	Unit 9: Power Series
	Unit 10: Fourier Series
	Unit 11: Laplace Transform
1	Unit 12: Software Tools for Mathematics II
	Computer Based Activity:
	Solving system of equations Sketching the graphs of complex functions and sketching the graph of complex function by using Software tools