SYLLABUS CURRICULUM

COURSE	**Course Name : Engineering Mathematics**
	Course Code : TM184305
	Credit : 3 sks
	Semester : III

COURSE DESCRIPTION

In this course students are able to complete various mathematical problems related to science in mechanical engineering such as: Control, Vibration, Continuum Mechanics, Finite element method, etc.

LEARNING OUTCOMES

LO5	Understand the basic science and mathematics.
LO8	Able to implement mathematics, science and engineering principles to solve engineering problems in mechanical systems.

COURSE LEARNING OUTCOMES

Students are able to understand about ordinary differential equations and partial differential equations, theory of scalar and vector fields, and use the transformation of Laplace, Fourier and Taylor series for technical problems either individually or together in a group.

MAIN SUBJECT

The focus of this course are as follows:
- ordinary differential equations
- Laplace transform, transformation Z
- Partial Differential Equations
- Scalar and vector field theory (Divergence, gradient, curl, Line integrals, Green's theorem)
- Fast Fourier series and Fourier Transform
- Taylor series and Laurent series

PREREQUISITES

- Calculus 1
- Calculus 2

REFERENCE

1. Kreyzig, Advanced Engineering Mathematics, 7th, Ed. John Wiley & Sons, 1993.
2. Michael D Greenberg, Advanced Engineering Mathematics 2nd ed.