

Module Code	MA3023	Title	Numerical Methods			
Credits	02	Hours/Week	Lectures	02	Pre-requisites	MA1023
			Lab/Tutorials	-		
<u>Learning Outcomes</u>						
<p>At the end of this module the student should be able to</p> <ul style="list-style-type: none"> • solve a system of linear equations by various numerical methods. • solve a system of non-linear equations by various numerical methods. • find maxima and minima of functions of several variables by numerical methods. • solve an initial value problem involving an ordinary differential equation by various numerical methods. • solve an initial-boundary-value problem involving a partial differential equation by various numerical methods. 						
<u>Outline Syllabus</u>						
<ul style="list-style-type: none"> • Gaussian elimination, Jacobi's and Gauss-Siedel methods. • Curve fitting. • Numerical solution of a system of non-linear equations; • Numerical optimization; • Numerical solution of an ordinary differential equation: Taylor series method, Euler's method and Runge-Kutta methods; • Numerical solution of partial differential equation: Initial boundary value problems involving Heat equation, Wave equation and Laplace's equation. 						

Note: MPR,ER & TT other than CS and CE