

Department of Mathematics
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Course	Course Name : Finite Element Methods
	Course Code : KM184822
	Credit : 2
	Semester : 8

Description of Course	
Euler-Lagrange Equation, Ritz Method, Finite Element Method, Galerkin Method, Formation of elements, construction of base functions, Barycentric coordinates, global coordinate assembly.	
Learning Outcome	
PLO 2	[C3] Students are able to solve simple and practical problems by applying basic mathematical statements, methods and computations
PLO 3	[C4] Students are able to analyze simple and practical problems in at least one field of analysis, algebra, modeling, system optimizations and computing sciences
PLO 4	[C5] Students are able to work on a simple and clearly defined scientific task and explain the results, both written and verbally either on the area of pure mathematics or applied mathematics or computing sciences
Course Learning Outcome	
Students understand and can solve problems related to the finite element method that is often encountered in science and engineering problems.	
Main Subject	
Euler-Lagrange Equation, Ritz Method, Finite Element Method, Galerkin Method, Formation of elements, construction of base functions, Barycentric coordinates, global coordinate assembly.	

Prerequisites
Reference
1. Cuvelier, C., Segal, A & A.A. Steenhoven, 1986. “Finite Element Method and Navier-Stokes Equation”, Doordrecht.
Supporting Reference