

Date 10/09/2020

**ME 451 FINITE ELEMENT METHOD
ISE II SYLLABUS**

Two-Dimensional Analysis

Introduction. Finite element analysis for two dimensional problems. Natural coordinates and coordinates transformations, Derivation of shape functions for triangular element. Application of heat transfer, analysis of structural vibration. Finite element formation of beams.

SELF STUDY SYLLABUS

Simulation Theory and Application

System models and studies: - concepts of a system, system environment, stochastic activities, continuous and discrete systems, system modelling, types of models, principles used in modelling, types of system studies.

System simulation:-The techniques of simulation, Monte Carlo method, comparison of simulation and analytical methods, analog computers and methods, hybrid computer, simulators, continuous system simulation languages, system dynamics, growth models, logistic curves, multi segments models, probability concepts in simulation, system simulation, events, representation of time, arrival pattern.