MECH6351 - Finite Element Techniques I

MECH 6351 Finite Element Techniques I (3 semester credit hours) This course will provide an overview on the basic theory of the finite element methods (FEM) and application of FEM analysis in solid mechanics. Course topics include 1D elements and computational procedures, variational principles and Rayleigh-Ritz method, Galerkin finite element method, numerical discretization, imposition of constraints, 2D elements and basic programming steps, finite element solution techniques, application of FEM for vibration analysis, and use of commercial FEM codes. Prerequisite: MECH 4301 or equivalent. (3-0) Y