Course Description

Advanced treatment of the theoretical concepts and principles necessary for the application of the finite element method in the solution of differential equations in engineering.

Definition of a Credit Hour

H.

x	Apply basic steps of finite element formulation.
x	Analyze one-dimensional beam problems using finite element method
x	Analyze two-dimensional frame problems using finite element method.
x	Analyze eigenvalue and time dependent problems using finite element method.
x	Analyze two-dimensional solid elasticity problems using finite element method.

Required Texts/Readings Textbook

homework assignments.

ClassProtocol

Independent work on assignments is expected. Copying from Solutions Manual or online resources is strictly prohibited.

Grading Scale

many programs and facilities which are free to all students and members. Campus Recreation offers its members limitless opportunities. For more information about our services, see www.wichita.edu/heskett.

Video and Audio Recording

Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Unless explicit permission is obtained from the instructor, recordings of lectures may not be modified and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

Tentative Schedule for 15 week class

Week	Date	Topics, Readings, Assignments, Deadlines
1	8/19—8/23	Integral formulations and variational method
2		Weighted integral method, define boundary, initial, and eigenvalue problems, calaulus of variation
3		Homework #1 due. Variational calculus, the Euler equation, "weak" form formulation, weighted integral form
4		The method of weighted residuals, Petrov-Galerkin method, Galerkin method, least-square method, collocation