1. 課程名稱：有限元素法

2. 學分數：3

3. 課程編號：N673800

4. 授課教師：胡宣德

5. 課程目標：Theory and applications of finite element method; stiffness matrices for triangular, quadrilateral, hexahedral and isoparametric elements; two- and three-dimensional elements including solids of revolution; knowledge of using variational method (such as Rayleight-Ritz method) and weighted residual (such as Galerkin method) to formulate finite element expressions; employing of commercial finite element program ABAQUS to solve practical engineering problem.

6. 課程內容概要：
   (1) Introduction
   (2) One-dimensional Elements and Computational Procedures
   (3) Introduction to ABAQUS Finite Element Program
   (4) Basic Elements (10)
   (5) Variational and Rayleight-Ritz Methods
   (6) Weighted Residual and Galerkin Methods
   (7) Isoparametric Elements
   (8) Isoparametric Triangles and Tetrahedra
   (9) Solids of Revolution

7. 成績計算方式：
   (a) Midterm Exam and Final Exam 35%
   (b) Final Exam 35%
   (c) Homework 30%

8. 教科書和主要參考書

9. 建議先修課程：Matrix analysis of structures

10. 適合修習對象：Graduate students toward M.S. and Ph.D. degrees