

# 100-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	電腦輔助工程分析與最佳化	Serial No. / ID	1671 / MAV4035
Dept.	機械與自動化工程學系	School System / Class	四技部4年1班
Lecturer	劉勝安	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	Yes
Time / Place	(五)567 / H726	Language	Chinese

Introduction
<p>Finite Element Method (FEM) is a powerful tool for the numerical solution of a wide range of engineering problems. With advances in CAD systems, complex problems can be modeled easily. Several alternative configurations may be tested on a computer before first prototype is built.</p> <p>In FEM, a solid model representing a complex member or a structure as a whole is discretized into simple or particular geometric subregions called finite elements. The material properties and governing relationships are considered over these elements and expressed in terms of the unknown values at element corners. An assembly process, duly considering the loading and constraints, results in a set of simultaneous equations. Solution of these gives the approximate behavior.</p>

Outline
<ol style="list-style-type: none"><li>1.Introduction of CAE</li><li>2.Introduction of ANSYS</li><li>3.Finite Element Model</li><li>4.Advanced Technique in Building FE Model</li><li>5.Solid Model</li><li>6.Mesh Generation</li><li>7.Force Application</li><li>7.Analysis Examples</li></ol>

Prerequisite
<p>Mechanics of Materials</p> <p>Computer Knowledge</p>