朝陽科技大學 092學年度第2學期教學大綱

Application of Numerical Method in Geotechnical Engineering 數值分析在大地工程上之應用

當期課號	7021	Course Number	7021
授課教師	蔡佩勳	Instructor	TSAI,PEI HSUN
中文課名	數值分析在大地工程上之應用	Course Name	Application of Numerical Method in Geotechnical Engineering
開課單位	營建工程系碩士班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	對於複雜之邊界條件及非均質土層等大地現場問題，數值程式分析能提供解決方法。本課程旨在說明數值方法或相關分析軟體在解決滲流、壓密、邊坡穩定等實際工程問題之處理程序，亦將訓練同學對數值結果正確性進行研判。	Objectives	Numerical methods can simulate realistically many of the complications found in practical problems, including complicate geometric and boundary conditions, and nonhomogeneous geologic condition. The course trains the students to perform the geotechnical programming, too.
教材	課堂講授與指定作業	Teaching Materials	Two homworks, a F.E.M. code
成績評量方式	期中考與期末考 (2 ×25%) 作業 (50%)	Grading	Homework 50% Midterm 25% Final Exam 25%
教師網頁	_		
教學內容	本課程將先簡述有關有限元素法之分析方法，與應用於大地工程問題之分析技巧，並訓練同學能自行撰寫有限元素法Fortran程式，再簡介深開挖軟體TORSA應用於大地工程問題之操作。	Syllabus	This course introduces the theory behind the finite element method and presents its application to analysis of geotechnical problems. The objectives of the course are to: introduce the finite element method to solve partial differential equation; formulate various finite elements in one, two and three dimensions; present the principles of modeling and nonlinear analysis; apply these principles to finish a programming assignment; introduce a typical finite element software package.