

朝陽科技大學 093學年度第1學期教學大綱  
Advanced Structures 高等結構

當期課號	7033	Course Number	7033
授課教師	王淑娟	Instructor	WANG,SHU CHUAN
中文課名	高等結構	Course Name	Advanced Structures
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	以系統化之方式教導學生，使其了解結構勁度法與柔度法之原理，及其在複雜三維結構上之應用。主要內容包括梁、平面架與構架、空間架與構架等之結構分析原理，此外並介紹相關之程式應用。	Objectives	This course emphasizes the systematic approach to the stiffness method and flexibility method, along with its application in complex structures. Specific structural types covered in this course are beam, grid, plane truss, space truss, plane frame, and space frame.
教材	"Matrix Structural Analysis" by W. McGuire	Teaching Materials	
成績評量方式	期中考 30% 期末考 30% 作業及小考 40%	Grading	mid-term exam.:30% final exam.:30% Homework and quiz:40%
教師網頁	-		
教學內容	以系統化之方式教導學生，使其了解結構勁度法與柔度法之原理，及其在複雜結構上之應用	Syllabus	Introductions, Definitions and Terminology, Basic Equations, Axial Element, Direct Stiffness Method, 3D Beam-Column Element, Coordinate Transformations, Solution of Linear Algebraic Equations, Equivalent Nodal Loads, Virtual Work Principles, Virtual Work Principles in Framework Analysis, Special Analysis Procedures, Element Flexibility Matrix(Flexibility-Stiffness Transformation), Virtual Force Principles and etc.

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