朝陽科技大學 098學年度第2學期教學大綱
Numerical Methods 數值方法

當期課號	2804	**Course Number**	2804
授課教師	程大川	**Instructor**	Cheng,Da Chuan
中文課名	數值方法	**Course Name**	Numerical Methods
開課單位	資訊工程系(四日)二A	**Department**	
修習別	選修	**Required/Elective**	Elective
學分數	3	**Credits**	3
課程目標	這門課的目標是提供學生數值方法的知識，主題包括：數值方法簡介、數值解與可析解的差異、數值方法的誤差與精確度、各種問題求解的數值方法。在完成這門課之後，學生將可以學習到下面幾點：1.瞭解數值解與可析解；2.瞭解Roots of Equations的數值方法；3.瞭解Linear Algebra Equations 的數值方法；4.瞭解Curve Fitting數值方法。	**Objectives**	The goal of this course is to provide students with a basic knowledge of the Numerical Methods. The main topics include Numerical Methods introduction, Numerical and Analytical solutions, Error and accuracy of Numerical methods, and Various important NUmerical methods. Students will realize the following backgrounds of this course after completing the course: 1. The difference of Numerical and Analytical solutions; 2. The numerical methods for Roots of Equations; 3. The numerical methods for Linear Algebra Equations ; 4. The numerical methods for Curve Fitting.
教材	應用數值方法 譯者：王晉中	**Teaching Materials**	Applied numerical methods with matlab for engineering and scientists
成績評量方式	心得報告+作業：30% 期中考：30% 期末考：30% 出席：10%	**Grading**	Honework, report: 30% Midterm exam: 30% Final exam: 30% Presence: 10%
教師網頁			
教學內容	本課程的介紹 MATLAB基本簡介 MATLAB基本程式設計 MATLAB進階程式設計 四捨五入與截斷誤差 方程式的根：包圍法 方程式的根：開放法 線性代數方程式與矩陣 高斯消去法 LU分解 反矩陣與矩陣條件 方程式系統的迭代方法 曲線匹配	**Syllabus**	Introduction to this lecture Basic introduction to MATLAB Basic programming using MATLAB Advanced programming using MATLAB Round-off and truncation errors Roots of equations: bracketing methods Roots of equations: open methods Linear algebraic equations and metrics Gauss elimination LU decomposition matrix inverse and condition Iterative methods for systems of equations Curve fitting: fitting a straight line

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