# 朝陽科技大學 096學年度第2學期教學大綱
# Linear Algebra 線性代數

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| 當期課號 | 2339 | Course Number | 2339 |
| 授課教師 | 陳金鈴 | Instructor | CHEN,CHIN LING |
| 中文課名 | 線性代數 | Course Name | Linear Algebra |
| 開課單位 | 資訊工程系(四日)一A | Department | |
| 修習別 | 必修 | Required/Elective | Required |
| 學分數 | 3 | Credits | 3 |
| 課程目標 | 線性代數這門課的主要目標是了解矩陣相關概念與矩陣計算、解線性方程組之基本方法、歐氏空間與其他更廣泛的向量空間及子空間之觀念、線性變換及其矩陣表現、矩陣與線性變換之特徵直、特徵向量的相關概念與計算、具特殊性質與應用性之矩陣等。<br>學生可從課程中學得：<br>1.線性方程式組及矩陣簡介<br>2.行列式<br>3.二維及三維向量空間<br>4.歐式向量空間<br>5.向量空間<br>6.內積向量空間<br>7.特徵值及特徵向量<br>8.線性轉換 | Objectives | The main goal of the linear algebra, this subject, is to understand relevant concepts of matrix and matrix are calculated, basic method to solve linear equation group, Euclidean Spaces and other more extensive ideas of vector space and sub space, linear transformation and matrix displaying, matrix and linear relevant concepts and calculation with Eigenvalues, Eigenvectors, having special nature and using matrix.<br>Students can obtain from this course as follows:<br>1. Brief introduction of matrices and linear system<br>2. Determinant<br>3. Two-dimension and vector space of three-dimension<br>4. Euclidean Spaces<br>5. Vector space<br>6. Inner vector space<br>7. Eigenvalues and eigenvectors<br>8. Linear transformation |
| 教材 | Gareth Williams, “Linear Algebra with Applications”, 6th Ed., Jones and Bartlett, 2008. (滄海代理) | Teaching Materials | Gareth Williams, “Linear Algebra with Applications”, 5th Ed., Jones and Bartlett, 2005. (滄海代理) |
| 成績評量方式 | 1. 小考四次(Quizzes): 40%<br>2. 期中考(Midterm Exam): 25%<br>3. 期末考(Final Exam): 25%<br>4. 課程參與(Participation): 10% | Grading | 1. Four Quizzes: 40%<br>2. Midterm Exam: 25%<br>3. Final Exam: 25%<br>4. Participation: 10% |
| 教師網頁 | http://www.csie.cyut.edu.tw/~clc | | |
| 教學內容 | 本課程主要目標包括(1)傳遞線性代數的核心觀念,(2)建構應用數學的技巧,和(3)教授學生以數學進行思考. 本課程的主要教授主題包括:<br>1. 線性方程式系統<br>2. 矩陣<br>3. 行列式<br>4. 向量空間<br>5. 特徵值與特徵空間<br>6. 線性轉換<br>7. 內積空間. | Syllabus | The goals of the course include (1) impart a knowledge of core areas of linear algebra, (2) develop a skill in applying mathematics, and (3) teach the students to think mathematically. The main topics including in the course are as follows:<br>1. Systems of Linear Equations<br>2. Matrices<br>3. Determinants<br>4. Vector Spaces<br>5. Eigenvalues and Eigenvectors<br>6. Linear Transformations<br>7. Inner Product Spaces. |

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