

Linear Algebra

Course Syllabus (課程綱要)

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一、【開課系所】：資訊工程學系（☒學士班☐進修學士班☐碩士班☐碩士在職專班）

二、【開課年級】：一年級

三、【修別】：必修

四、【科目名稱】（中文）：線性代數 （英文）：Linear Algebra

五、【先修科目】：N/A

六、【學分數】：上學期 3 學分

七、【授課時數】：（正課） 3 小時

八、【教學目標】：

Linear Algebra has risen to a role of prominence in the mathematical curriculum rivaling that of calculus. This course will build the foundations of knowledge in both fields of engineering and computer science. This course will cover basic materials including the methods of solving linear system problems, matrix algebra, and vector concept to build background of effective programming and engineering computation with essential math.

九、【內容綱要】：

1. Matrices and Systems of Equations – Chapter 1
2. Determinants – Chapter 2
3. Vector Spaces – Chapter 3
4. Linear Transformations – Chapter 4
5. Orthogonality – Chapter 5
6. Eigenvalues – Chapter 6

十、【成績評定原則】：

1. Six Quiz: one quiz per chapter

Chapter 1: 19%, Chapter 2: 15%, Chapter 3: 18%, Chapter 4: 15%,
Chapter 5: 18%, Chapter 6: 15%,

2. Class Attendance: take out 1% per absence

十一、【課本與講義】：

1. Textbook: Linear Algebra, by Steven Leon, 10th ed., Pearson Education, Ltd, 2021

2. Handout: download from web page: <http://www.csie.ntpu.edu.tw/~dalton>