

EE 203000 Linear Algebra 線性代數

1. 上課教室：台達館 216
2. 上課時間：星期三 10:10 ~ 12:00 星期五 10:10 ~ 12:00 PM
3. 任課老師：馮開明 辦公室：台達館 921 室
4. Office Hours: To be determined
5. 助教：To be determined (辦公室：資電館 604 室)
6. 教科書：S. H. Friedberg, A. J. Insel, and L. E. Spence, "Linear Algebra," 4th Ed, Prentice Hall, 2014
7. 課程內容：

Chap. 1 Vector Spaces: (9/14 ~ 10/5)

Vector Spaces, Subspaces, Linear Combinations, Linear Equation systems, Linear Dependence and Independence, Basis and Dimension

Chap. 2 Linear Transformations and Matrices (10/5 ~ 10/26)

Linear Transformation, Null Spaces, Range, Matrix Representation of Linear Transformation, Composition of Linear Transformations and Matrix Multiplication, Invertibility and Isomorphisms, Change of Coordinate Matrix

1st Midterm 10/28 10 AM (25%)

Chap. 3 Elementary Matrix Operations and Systems of Linear Equations (11/2 ~ 11/9)

Elementary Matrix Operations and Elementary Matrices, The Rank of a Matrix and Matrix Inverses, Systems of Linear Equations

Chap. 4 Determinants (11/9 ~ 11/18)

Determinants of order 2 and n, Properties of Determinants

2nd Midterm 11/23 10 AM (20%)

Chap. 5 Diagonalization (11/25 ~ 12/16)

Eigenvalues and Eigenvectors, Diagonalizability, Invariant Subspaces and the Cayley-Hamilton Theorem

Chap. 6 Inner Product Spaces (12/16 ~ 1/6)

Inner Products and Norms, The Gram-Schmidt Orthogonalization Process, The Adjoint of a Linear Operator, Normal and Self-Adjoint Operators, Unitary and Orthogonal Operators, Orthogonal Projections and the Spectral Theorem, SVD and Pseudoinverse.

Final 1/11 10:10 AM (30%)

8. 成績考核：

Examination: (Midterm 1: 25%, Midterm 2: 20%, Final: 30 %)

Homework: (25 %)

作業請勿抄襲。如經助教認定抄襲，被抄襲與抄襲者該次作業以 **-100** 計算！

請於上課前繳交。若無特殊理由，逾時繳交不予受理！
作業請以釘書機或長尾夾固定好。未釘牢之作業也不予受理。

9. 講義位址 (Course Material Download Website): eeClass (<https://eeclass.nthu.edu.tw>)

10. 加簽順序：(加簽至 xx 人)

1. 電資院二年級同學
 2. 電資院高年級學生(含雙主修、但不包含輔系、第二專長)
 3. 電資院一年級學生
 4. 其他學院以電資院科系為輔系之同學
 5. 其他學院以電資院科系為第二專長之同學
 6. 其他學院學生(依年級高低排序)
- PS. 雙主修、輔系、第二專長之認定以校務資訊系統之登載為準