

UEE1061 — Linear Algebra:

Course Brief :

This course provides students with the necessary background on Linear Algebra, including the following topics.

- Vectors and operations (such as inner product) upon them.
- Vector space and subspace
- Matrix and linear equation (Forward elimination and back substitution)
- Orthogonality of vectors
- Decomposition of matrices
- Eigenvalues and Eigenvectors
- Linear Transformations, Wavelet Transform, Discrete Fourier Transform, Pseudo-inverse

Instructor :

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Text :

Gilbert Strang, *Introduction to Linear Algebra*, International Fourth Edition, Wellesley Cambridge Press, 2009

- We will cover the first **seven** chapters.

Lecture Schedule :

Tuesday CD (10:10 am~12:00 noon) and Thursday G (3:30 pm~4:20 pm)

Class Room :

Tuesday CD at ED220

Thursday G at ED116

Teaching Assistant :

Hsuan-Yin Lin ext. 54630 ED716A u920972@gmail.com

Ting-Yi Wu ext. 54570 ED823 mavericktyw@gmail.com

Office Hours :

Professor : Thursday EF at my office (Please make an appointment first if you want to come for asking questions).

Teaching Assistants :

Hsuan-Yin Lin: Thursday CD at ED716A

Ting-Yi Wu: Wednesday EF at ED823

Grading System :

The final grade will be contributed from three midterm exams (20% each), one final exam (25%) and 12 weekly homework submissions (15%). The homework problems will be posted on my website one week before its due Thursday, except March 27 (midterm), April 17 (midterm) and May 15 (midterm). The first homework will be due on March 6 and the last one, June 12. Note that the homework problems posted on March 27 will be due on April 1 because April 3 is a national holiday.

The midterm and final exams will be two hours in length, and will contain five to six problems (with possibly some subproblems). Half of the problems will be selected from the homework problems as well as the problem sets at the end of each section. You are strongly suggested to do the problems in the textbook for a better understanding of the materials covered, and also for the preparation of the exams. The last two to three problems will be variations of the problems in the textbook (perhaps, the **Challenge Problems**).

Here is a tentative schedule of the exams and the materials they will cover:

- Midterm Exam 1 on **March 27**: Chapter 1 & 2
- Midterm Exam 2 on **April 17**: Chapter 3

- Midterm Exam 3 on **May 15**: Chapters 4 & 5
- Final Exam on **June 19**: Chapters 6 & 7

The schedule of the course is summarized in the next page for your reference.

Homework No.	Due Date	Material Covered (Subject to change according to the schedule)
1	March 6	Chapter 1 to Section 2.4
2	March 13	Sections 2.5 and 2.6
3	March 20	Section 2.7
The 1st midterm	March 27	Chapters 1 and 2
4	April 1	Section 3.1 to Section 3.4
5	April 10	Sections 3.5 and 3.6
The 2nd midterm	April 17	Chapter 3
6	April 24	Chapter 4
7	May 1	Sections 5.1 and 5.2
8	May 8	Section 5.3
The 3rd midterm	May 15	Chapters 4 and 5
9	May 22	Sections 6.1 and 6.2
10	May 29	Sections 6.3 and 6.4
11	June 5	Sections 6.5 to Section 6.7
12	June 12	Section 7.1 to Section 7.3
The final exam	June 19	Chapters 6 and 7