Linear Algebra: Theory and Applications (MAT2041)

Course Syllabus and Brief Introduction

Instructor:
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Introduction

- Basic Information and Course Syllabus
- Basic Introduction
- Q&A

Course Information (L03)

Instructor:	Cosme Louart (call me Prof. Louart or 程老师)
Course schedule:	Mon, Wed 1:30PM-3PM
Venue: TB	Teaching B 103
Office Hour:	Tuesday 10:30AM-12AM (Daoyuan 521B)
Email:	cosmelouart@cuhk.edu.cn （use Piazza for questions about course）
Course Content:	Black Board (+ Wechat group code provided during the break)
Teaching Method:	Slides + Annotation

Myself

- ENS (École Normale supérieure Paris)
- Univ Grenoble Alpes PhD
- EDF (electricity company) research engineer, Beijing
- CUHK(SZ), Assistant professor

  (work on Random matrix theory & Concentration of the measure)
- Also teaching Matrix analysis for Post graduate students (CSC 6119)

TA and Tutorials

Teaching Assistant: DENG, Tao
222042002@link.cuhk.edu.cn

Office hours: Probably after the course on Wednesday
(will be settled later)

No Tutorial for the first week

Textbooks

(Content in Course slides should be sufficient)

Textbook: Gilbert Strang, *Introduction to Linear Algebra*, 6,5th edition, Wellesley-Cambridge Press

Recommended books: Steven Boyd, Lieven Vandenberghe*, Introduction to Applied Linear Algebra*

Steven J. Leon, *Linear Algebra with Applications*, 9th Edition

David C. Lay, et al., *Linear Algebra and its Applications*, 5th edition

Grading Scheme

Attendance:	5%	(checked after 3rd week, end of add/drop period)
Assignments and Quiz:	30%	(In total approx. 7 assignments, 5 quiz)
Mid-term Exam:	30%	
Final-term Exam:	35%	

Homework logistic

- Will be online on bb at the end of this week
- Will be due at least next week (probably Friday)
- **Dropping one homework policy**: worst score can be dropped
- Submit via bb

Course Syllabus (tentative)

Motivation and Vectors	Lecture 1-3	
Matrices Algebra	Lecture 4	
Linear Systems and Gaussian Elimination	Lecture 5-6	
Vector Spaces	Lecture 7-11	
Orthogonality	Lecture 12-14	**Mid-term (Lecture 1-11)**
Determinants	Lecture 15-16	
Linear Transformations	Lecture 17-18	
Eigen-Theory	Lecture 19-20	
Singular Value Decomposition	Lecture 21-22	
Quadratic Form	Lecture 25	**Final Exam**

Links

- Student can check and edit this vocabulary 【腾讯文档】

  https://docs.qq.com/doc/DWHFWbnlWZUhEdUF5

- Attendance link:

- Wechat QR code: