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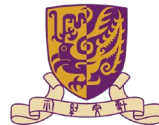
# Linear Algebra: Theory and Applications (MAT2041)

## *Course Syllabus and Brief Introduction*

**Instructor:**

**L01&02 Ruoyu Sun**

**L03 Cosme Louart**



香港中文大學(深圳)

The Chinese University of Hong Kong, Shenzhen

数据科学学院

School of Data Science

# Introduction

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

# Course Information (L03)

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

# Myself

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- 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

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**Teaching Assistant:** DENG, Tao  
[222042002@link.cuhk.edu.cn](mailto:222042002@link.cuhk.edu.cn)

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

No Tutorial for the first week

# Textbooks

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(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

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

# Homework logistic

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- 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)

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

# Links

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

<https://docs.qq.com/doc/DWHFWbnIWZUhedUF5>

- Attendance link:



- Wechat QR code:

