
Linear Algebra: Theory and Applications (MAT2041)

Course Syllabus and Brief Introduction

Instructor:

L01&L02 Ruoyu Sun 孙若愚

L03 Cosme Louart 程高木



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

- Basic Information and Course Syllabus
- Basic Introduction

Course Information (L01)

Instructor: Ruoyu Sun

(you may call me Prof. Sun, or Professor Sun, by university convention)

Course schedule:

L01 Tu, Th 8:30AM-10:50PM

Venue: TxC 201

Office Hour: Tue 11AM-12. (Txc 605 –may change after Feb)

Email: sunruoyu@cuhk.edu.cn

Important notice & QA: Wechat group

(add during the break)

Homework: Blackboard

Discussion: Piazza

Course Information (L02)

Instructor: Ruoyu Sun

(you may call me Prof. Sun, or Professor Sun, by university convention)

Course schedule:

L02 Tue, Thu 1:30PM-2:50PM

Venue: TxC 201

Office Hour: Tue 11AM-12. (Txc 605 –may change after Feb)

Email: sunruoyu@cuhk.edu.cn

Important notice & QA: Wechat group
(add during the break)

Homework: Blackboard

Discussion: [Piazza](#)

Online Platform

Wechat group: for receiving important notice and material (e.g. Slides, homework)

& asking important logistics question
(e.g. cannot find homework on BB)

Piazza: for discussion of tech questions

Blackboard: submitting homework, grading homework

These links will be shared in wechat group, and pinned on the top
(会在微信群里分享并置顶)

Myself

- Peking University, math, BS
- Univ of Minnesota, ECE, PhD
- Stanford University, Postdoc
- Facebook AI Research (led by Yann LeCun), visiting scientist
- UIUC, Assistant Professor

- CUHK(SZ), Associate professor. **Starting Fall 2022.**
- **Research Areas:** machine learning, optimization and communication networks, including:
large language models, deep learning theory, adaptive algorithms, learning to optimize, graph neural networks, resource allocation in networks, ...

- I taught an early version of linear algebra in 2017 in CUHK-SZ summer, with Prof. Tom Luo.
- I taught MAT2041 in Fall 2022 and Fall 2023.

TA and Tutorials

Teaching Assistants:

邓韬	L	DENG Tao	222042002@link.cuhk.edu.cn
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林博毅	LIN Boyi	123090327@link.cuhk.edu.cn

No Tutorial for the first week

Textbooks

Teaching Method: slides + writing

Textbook: Gilbert Strang, *Introduction to Linear Algebra*, 5th or 6th 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

Note: The textbook is not the same as the contents.

We use material from the textbook and other recommended books.

Grading Scheme

Attendance:	5%	(checked after 3 rd 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%	

Logistics

- Will be shared later this week.
- Homework 1: will be due at least next week (probably Friday or so).
- **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

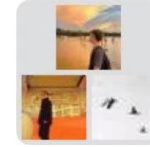
Tip: English Vocabulary and Piazza

- Students can check this vocabulary, and edit yourself

【腾讯文档】 MAT2041 Vocabulary

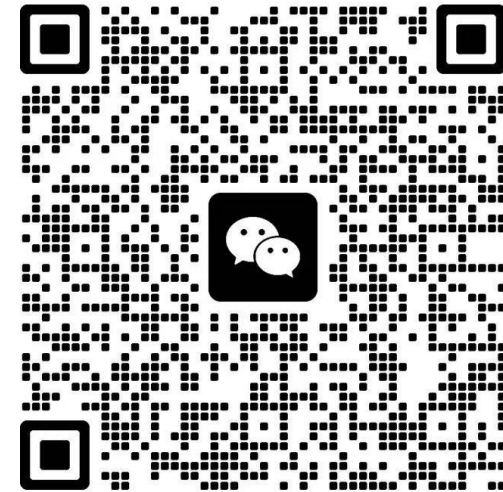
<https://docs.qq.com/doc/DWHFWbnIWZUhEdUF5>

Wechat Group L01



群聊: MAT2041-L01-
Spring2025

Please Scan and join



该二维码7天内(1月14日前)有效, 重新进入将更新

Attendance Check L01

MAT2041-L01

分享自 微信用户



微信扫码或长按识别