Syllabus

🔖 matrix theory

Course information

1 Presentation

The focus of the course will be the understanding of matrix theory, that is the study of techniques for solving problems from linear algebra and mathematical analysis.

In order to fully benifit from the course, students are expected to only conduct and submit their own, personal work.

2 Teaching team

Details related to the instructors, and the TA are summarized in the following table.

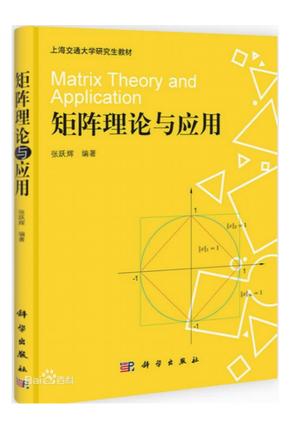| Instructors and TA	Contact	Office hours	Location
Jinyan Fan	jinyanfan@sjtu.edu.cn	TBA1	Mathematical Sciences School, 2206.
Kai Liu	liu1995@sjtu.edu.cn	TBA	Dorm, S34-106
Xuan Tao	706744945@qq.com	TBA	Dorm, N55

3 Schedule

The Autumn semester is 14 weeks long, including one week for the *review class*.

Lectures

- Tuesday 08:00 - 10:45
- Tuesday 14:00 - 16:45

Textbook

4 Goals

At the end of this course, students should be provided with a solid basis for any furthur study in the field of matrix computation.

Other goals mentioned to be fullfilled:

- Understand the mathematics behind the matrix transformation
- Gain with a strong intuitive sense of linear operation
- Know how to solve the linear equations
- Know the basics on linear algebra
- Apply the matrix theory to their own research

All assignments can be found in the textbook, along with its reference answer. But eletronic version is highly recommended. For example, you can write in $\LaTeX$ and implement the computation by Matlab, python, etc.

5 Grading policy

Though the final weights more, assignments are also **important** to grade your work.

Any **late submission** will result in a 10% deduction per day from the grade of the corresponding work. After **three days** no submission will be accepted.

Any work submitted before the deadline and fully written in $\LaTeX$ will be a 10% bonus. Extra marks resulting from this bonus cannot lead to a grade lager than a full grade.

Copying the work of others will result in **severe penalties**.

6 General information

The following references and links can be used to find information relevant to the course.

- All the course solution manual will be available on my blog.
- For reference, I recommend you the so-called *Matrix Bible* , Matrix Computation 4th edition.
- Another useful reference can be found on zhihu.
- When faced with difficulties, you can refer to Stackoverflow.

To improve communication between the students and the teaching team, please observe the following guidelines.

- Any student facing a special situation likely to impact his studies, such as serious illness or full time work, is expected to contact the instructor as early as possible in order to discuss it and see if any solution can be found.
- When sending an email related to this course please include the tag [matrix theory] in the subject, e.g. Subject: [matrix theory] how to find bases
- Keep in touch with the teaching team, feedbacks and suggestions will be much appreciated.
- `Comments` on the blog site can be used and I hope most of you have a try.

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1. Appointments outside of the office hours can be taken by email. ↩