

EE 263 Course Syllabus

Introduction to Linear Dynamical Systems

Jiafan Yu, Stanford University, Summer Quarter 2012-2013

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Lectures: Tuesdays and Thursdays, 3:15pm-5:05pm, Nvidia Auditorium

Jiafan's Office Hours: Tuesday 5:20-6:20, Packard 109

CA's office hours: Wednesday 3:15-5:05pm, Packard 109

wReview sessions: in CA's office hours

Textbooks: No textbook. Everything we will use is posted in CourseWork.

Linear Algebra and its Applications, or the newer book *Introduction to Linear Algebra*, G. Strang,

and *Introduction to Dynamic Systems*, Luenberger, Wiley,

could be reference, but you really won't need these books. We list them just in case you want to consult some other references.

Grading: Homework: 20%, mid-term 35%, final 45%

Homework:

7 homework sets in total

Graded on a scale of 1-10

Encouraged to work in groups, but make sure you really understand the problems and write your own solutions

Due every Friday at 5pm in the Packard 2nd floor EE263 cabinet

Homework will be returned in the same Packard cabinet

No late homework will be accepted (In case of emergencies please contact instructor)

Mid-term and Final:

24 hour take-home exam

Use any resource you like, but Do Not communicate with others

Schedule:

Date	Week	Topic
June 25	1	Introduction
June 27		Linear algebra review 1
July 2	2	Linear algebra review 2
July 4		Independence Day, no class
July 9	3	Orthogonality, QR factorization and least squares

Date	Week	Topic
July 11		More least squares and least norms
July 16	4	Review 1: matlab and problem solving
July 18		Review 2: midterm preparation
July 19-21	Midterm	Everything up to least squares
July 23	5	Eigenvectors and diagonalization
July 25		Jordan canonical form
July 30	6	Solution via Laplace transform and matrix exponential
August 1		Linear dynamical systems
August 6	7	Linear dynamical systems 2
August 8		Symmetric matrices, quadratic forms, matrix norm and SVD
August 13	8	More SVD
August 15		Review lecture
Aug 16-18	Final	Everything in class