

Section 1: MWF 10:10-11:00 AM, VinH 211

Section 6: MWF 02:30-03:30 PM, VinH 113

Instructor: Ru-Yu Lai (<http://www-users.math.umn.edu/~rylai>)

Office: VinH 229

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Office Hours: MWF 1:30pm - 2:20pm.

Textbooks: *Applied Linear Algebra*, 2nd Edition, by Peter Olver and Chehrzad Shakiban. A PDF copy of the textbook is available through the UMN Library website.

Prerequisites: Math 2243, 2373, or 2573, with a minimum grade of C-.

Course Description: Topics to be covered include the solution of linear systems by Gaussian elimination; linear spaces, subspaces, and bases; inner products and orthogonality; the Gram-Schmidt procedure; linear transformations and matrices; determinants; eigenvalues and eigenvectors; the singular value decomposition; quadratic forms; matrix factorizations.

Homework: Problem sets will be assigned each Friday and due the next Friday at the end of class. Late homework will not be accepted. Students are encouraged to work together on problem sets; however, each student must write up the solutions in his/her own words.

Quizzes: Quiz will be given occasionally in class. No notes and calculators are allowed during the quiz.

Exams: There will be two in-class midterm exams and a cumulative final exam. Collaboration with other students and/or use of outside resources, including calculators and notes, will not be permitted on exams. The exam schedule for Section 1 and Section 6 are as follows:

Section 1	Date	Time	Location
Midterm 1	Feb. 28	10:10am - 11:00am	Vincent 211
Midterm 2	Apr. 10	10:10am - 11:00am	Vincent 211
Final exam	May 9 th (Sat)	01:30pm - 03:30pm	Vincent 211

Section 6	Date	Time	Location
Midterm 1	Feb. 28	02:30pm - 03:20pm	Vincent 113
Midterm 2	Apr. 10	02:30pm - 03:20pm	Vincent 113
Final exam	May 12 th (Tue)	08:00am - 10:00am	Vincent 113

Grading: The final grade will be based on your scores on the homeworks/quizzes, the two in-class midterm exams, and the final exam. The percentage breakdown is as follows:

Item	Percentage
HW/Quizzes	9.5% / 9.5% (New 15% / 4%)
Midterms	46% (23% each)
Final exam	35%

Attendance: Students are expected to attend lectures and participate when appropriate. If a student misses class on the day of an exam/quiz, a make-up exam/quiz will only be given under exceptional circumstances and at the instructor's discretion.

Drop Deadline: For the university calendar, including drop deadlines, visit: <https://onestop.umn.edu/dates-and-deadlines>.

University Policies: For the university's policies on student conduct, electronic devices, scholastic dishonesty, make-up work, use of notes/course materials, grading/transcripts, sexual harassment, equal opportunity, disability accommodations, mental health and stress management, and academic freedom and responsibility, visit: <https://policy.umn.edu/education/syllabusrequirements-appa>. For more information on academic dishonesty, visit: <https://communitystandards.umn.edu/>. For more information on grading policy, visit: <https://policy.umn.edu/education/gradingtranscripts>. For more information on disability accommodations, visit: <https://diversity.umn.edu/disability/>.