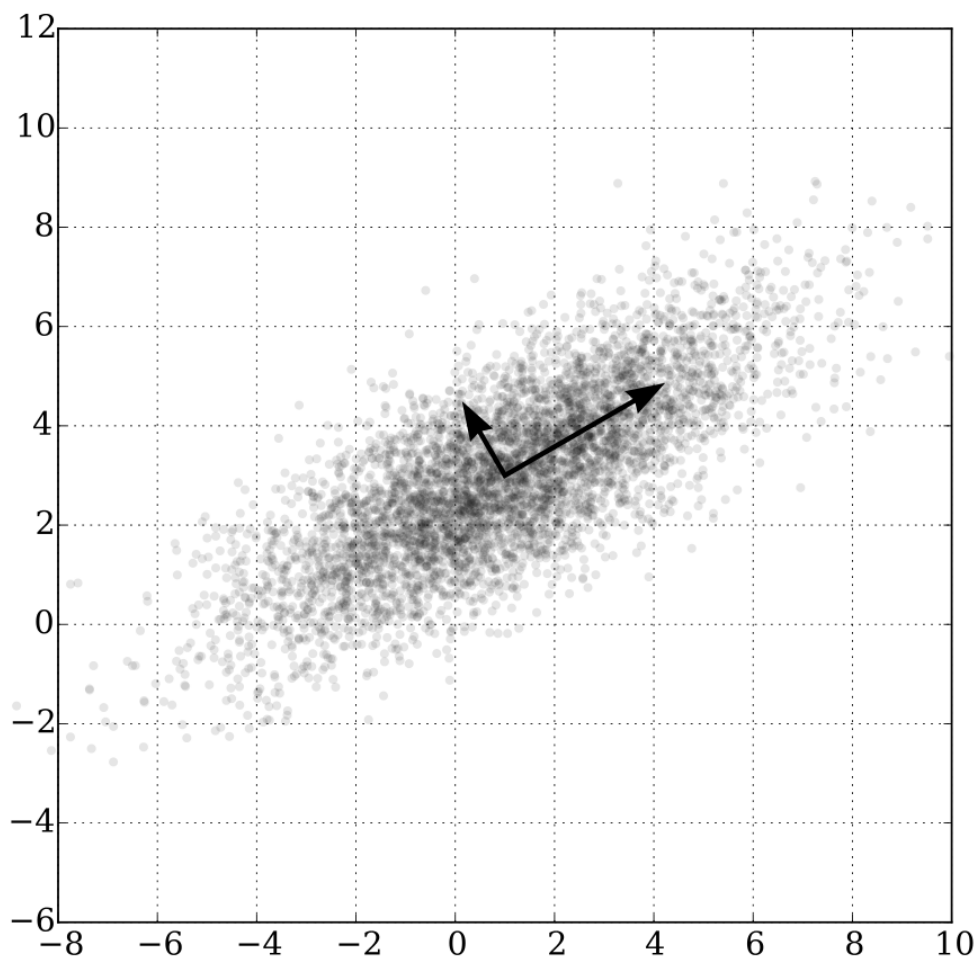


Welcome to Matrices and Linear Transformations! In this syllabus you will find basic information you need to navigate the course, a description of what we will be studying this semester, and advice intended to help you succeed in the course and make the class time enjoyable and productive. Please read this document carefully and save it as a reference. Don't worry if some of the mathematical terminology is new to you, we will be starting from scratch and will define all new concepts as they arise.



1 Basic Information

Instructor Information

Instructor David Offner
Email doffner@andrew (Please use Piazza for messages)
Office Hours MTWRF 2-3pm and by appointment, Wean 6219

TA Information

TA	Section (Day Time Location)
Marcos Mazari Armida	G (R 8:30 WEH 4709)
Peter Wu	H (R 10:30 WEH 4623)
Alice Wang	I (R 4:30 BH 235A)
Theodore Li	J (R 12:30 DH 2105)
Nathaniel Leon	K (R 1:30 BH 235A)
Krati Jain	L (R 4:30 BH 237B)
Office Hours	To Be Announced (check Canvas)

Course Information

Time and Location (Lec 3) MWF 9:30-10:20, MM 103
Time and Location (Lec 4) MWF 10:30-11:20, DH A302
Course Website canvas.cmu.edu/courses/10544
Required Textbook *Introduction to Linear Algebra* 5th edition,
by Gilbert Strang
Optional Textbook *Introduction to Applied Linear Algebra*
by Stephen Boyd and Lieven Vandenbergh
Download at web.stanford.edu/~boyd/vmls/
Corequisite 15-151 or 21-128

Course websites and communication: Course materials will be archived, resources will be linked, and grades will be recorded at the course **Canvas** site. We will use **Piazza** for online out-of-class discussion and announcements. Rather than emailing questions to the teaching staff, you are encouraged to ask and answer questions there. We will use **Gradescope** for turning in and grading homework. Both Piazza and Gradescope are linked from our Canvas site, and the Piazza site can be viewed directly at piazza.com/cmu/fall2019/21241.

Recitation: You are required to attend your scheduled recitation section, on Thursday. The TAs will lead discussions and introduce problems designed to help you build on what you learn in lecture.

Homework: There will be weekly graded homework assignments, typically due on Fridays at 8pm. As your lowest homework grade is dropped, late assignments will not be accepted. You are encouraged to collaborate on your homework with peers and discuss with myself and the TAs. However **you must independently write your own solutions, and you may not look at or copy anyone else's solutions.** Beginning with Homework 2, any homework typeset using \LaTeX will receive one bonus point.

Tests: We will have two in-class tests, scheduled for October 4 and November 15. Absences will only be excused with a documented, university-approved excuse.

Project: There will be a final project where you will apply the linear algebra we have learned to a computer science application of your choosing.

Final Exam: There will be a final exam, scheduled by the registrar. Do not make plans to leave campus prior to the end of finals.

Grading Concerns: Any questions regarding the grading of any assignment or test must be submitted through Gradescope within 48 hours of the grade being published.

Grades: Your grade will be calculated using a weighted average of your homework, two tests,

project, and final exam. It will be calculated using the more favorable of the following two formulas.

Formula 1		Formula 2	
Lowest test score:	15%	Two tests:	25% each
Highest test score:	25%	Final:	30%
Final:	40%	HW:	10%
HW:	10%	Project:	10%
Project:	10%		

Grade cutoffs will be no higher than D: 60, C: 70, B: 80, A: 90.

Help: This course is supported by Carnegie Mellon Academic Development (cmu.edu/acadev) through peer tutoring and EXCEL study groups.

Academic Integrity: Any work you submit in this course must be your own, and not copied from a friend, book, online resource, or anywhere else. Carnegie Mellon's academic integrity policies as stated in the student handbook will be strictly enforced.

See cmu.edu/policies/student-and-student-life/academic-integrity.html

Accessibility: If you have a disability and require accommodations, please email Catherine Getchell, Director of the Office of Disability Resources or call her office at 412-268-6121. If you have an accommodations letter from the Office of Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate.

Class Participation: Texting, checking your email, reading material unrelated to the course, and participating in other diversions from class are considered disrespectful to the instructor and your classmates. Please turn off all electronic devices unrelated to your work during class and recitation and be prepared to actively participate in all discussions. Please lay any devices you are using as flat as possible to minimize distractions to others.

2 Description of the course

From the course catalog: A first course in linear algebra intended for scientists, engineers, mathematicians and computer scientists. Students will be required to write some straightforward proofs. Topics to be covered: complex numbers, real and complex vectors and matrices, row space and column space of a matrix, rank and nullity, solving linear systems by row reduction of a matrix, inverse matrices and determinants, change of basis, linear transformations, inner product of vectors, orthonormal bases and the Gram-Schmidt process, eigenvectors and eigenvalues, diagonalization of a matrix, symmetric and orthogonal matrices.

Lectures 3 and 4 are specifically intended for students of computer science. In addition to the topics outlined in the course catalog, this course will focus on applications to computer science.

3 Take care of yourself

Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is almost always helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at cmu.edu/counseling/. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.

If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night:

CaPS: 412-268-2922

Re:solve Crisis Network: 888-796-8226

If the situation is life threatening, call the police

On campus: CMU Police: 412-268-2323

Off campus: 911

If you have questions about this or your coursework, please let me know. Thank you, and have a great semester.