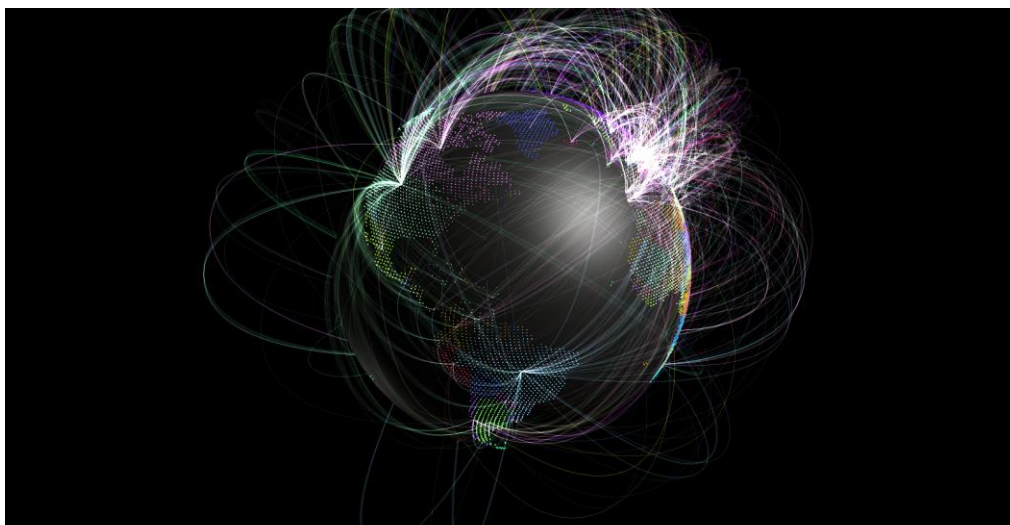


Linear Algebra



(Legal) Arms Trades Between Nations. This visualization was designed and programmed by Michael Chang using matrices. July 2012. <http://mflux.tumblr.com>.

Math3E 43048 SUMMER 2021 June 21 – July 23 College of Alameda

Course Catalog Description

3 units, 3 hours lecture (GR)

Prerequisite: Math 3A

Not open for credit to students who have completed or are currently enrolled in Math 3D.

Acceptable for credit: CSU, UC

Linear algebra: Gaussian and Gauss-Jordan elimination, matrices, determinants, vectors in R^2 and R^3 , real and complex vector spaces, inner product spaces, linear transformations, eigenvalues, eigenvectors, and applications. 1701.00

AA/AS area 4b; CSU area B4; IGETC area 2

Instructor: TBD

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materials

Homework: www.mymathlab.com

Piazza: www.piazza.com/college_of_alameda/fall2016/math3e

Text: Lay, David C., Steven R. Lay, and Judi J. McDonald, *Linear Algebra and Its Applications*, 5th edn. New York: Pearson, 2016.

How to take this course	For a “Satisfactory” Grade • Attempt at least 75% of the homework. • Participate in at least 75% of the classes. • Each week, study at least 8 hours outside of class (homework, reading the text, and studying your notes). • Get help from the Math Lab • Study for the Final Exam!	For a “Good” or “Excellent” Grade The items for a “Satisfactory” grade PLUS: • Complete all of the homework; after the first few problems, try to do the homework without referencing your notes or the book. • Actively participate in all of the lectures; ask questions, listen to others’ questions, take notes on what is written <i>and</i> said. • Participate on Piazza and form a study group. • As soon you can after class, go back over your notes. Look for any errors and/or omissions. Fill in any information you didn’t have time to write down in class. • Practice, practice, practice! Complete the Study Plan on MyMathLab.
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Course Requirements

Attendance: As stated in the Academic Regulations, Policies & Standards for the College of Alameda (COA), students “are expected to be in class, prepared for instruction, at the designated class starting time.” Although not a part of the grade, attendance for this course is strongly encouraged by daily in-class assignments. Your attendance will be submitted to Admissions and Records along with your final grade.

Lecture: We’ll cover material at a fast pace. This is a proof-based course, and I like to have interactive lectures. To prepare, preview and review! Preview by doing the reading assignment and looking over the examples in the text prior to lecture. Review by completing your notes and making sure you understand the proofs and examples from the previous class.

Quizzes: We’ll have quick quizzes (one or two questions) almost every session; many are “open neighbor”. Frequent quizzes help me

assess how well you are learning the material, and help you assess your understanding, get personalized feedback from me, and review important concepts. There are **no make-up quizzes**, but the lowest 3 scores are dropped. Review your lecture notes to prepare for the quizzes.

Homework: This is a crucial part of the course; expect to spend at least 6 hours per week on homework assignments. Homework consists of reading assignments and online problems. See the sections on MyMathLab and Piazza for more info.

Exams: There will be three exams. They will include both calculations and proofs. The dates are listed on the schedule. There are **no make-up exams**. You may not reschedule an exam. Absence from the Final Exam without a valid excuse will result in an “F” symbol being entered in your record. If it helps, your lowest midterm score will be replaced by your final exam score. Review your lecture notes and practice many problems to prepare for the exams.

Grading Criteria	Homework	20%
	Quizzes	20%
	Exam 1	20%
	Exam 2	20%
	Final Exam	20%

MyMathLab

Homework Website: www.mymathlab.com

Course ID: beal00422

Online homework will be assigned and submitted through MyMathLab. Keep a written record of your work for studying purposes and in the event your account information is compromised.

MyMathLab has features built into some of the homework problems, such as *Help Me Solve This* and *View an Example*. Instead of using the *Ask My Instructor* option, you should post questions on Piazza. See below for more details.

Homework problems from one week's lecture are generally due online the following Tuesday at 10:00 am (unless otherwise specified). No late homework will be accepted under any circumstances; do not ask me for an extension. Instead, the lowest four homework scores are dropped from your final grade.

Piazza

Website: piazza.com/college_of_alameda/fall2016/math2

Access Code: math3e_kbeal

We'll communicate as a class online through Piazza! Post questions, comments, and responses to the forum. I will make announcements and post class resources to our Piazza site, too. If you can't add this course, email me and I'll manually add you to the site.

EXTRA CREDIT!!!
Participate in the COA Workshop Series and receive extra credit on exams. See Piazza for more info.

Student

Learning Outcomes

Develop problem solving abilities: synthesize data, translate words into math language, and construct an abstract model that describes the problem.

Given data, analyze information and create a graph that is correctly titled and labeled, is appropriately designed, and accurately emphasizes the most important data content.

Write and manipulate complex algebraic expressions and general functions, and be able to classify and solve algebraic and transcendental equations.

Academic Accommodations

"If you have a disability which may require classroom or test accommodations, please contact Programs and Services for Students with Disabilities (DSPS) in Room D117 or call DSPS at 510-748-2328. You will need to provide written documentation of your disability. If you think you have a disability but currently have no documentation, DSPS may be able to help you. If you already have an accommodation notification from DSPS, please submit it to the instructor immediately. All information will be kept confidential."

Help and Resources

COA provides a comprehensive program of services to assist students to obtain the maximum benefit from their education. Information about services for students can be found in College of Alameda Course Catalog. The Student Center (Building "F") houses the Student Leadership Office, Cafeteria, the Student Lounge, the Cyber Cafe, offices of the ASCOA, mailboxes for recognized clubs and organizations, Student Health Services, and the College Store.

If you need to get online but don't have internet access, I encourage you to use the computers in the Math Lab (L207) or the Open Lab (L202D). To do this, sign up for LRNRE 501 – Supervised Tutoring. This course is a no-credit ungraded course that will not show up on an official transcript. Your effort to sign up this course will help keep our labs open and free to all students. Other services include:

- Childcare
- Extended Opportunity Programs and Services (EOP&S)
- Drop-in academic help in the Learning Resource Center (LRC)
- Veterans and Veterans' Dependents Services
- Welcome Center



Public Key Cryptography, used in securing internet commerce, is one of many applications of Linear Algebra. See https://www.youtube.com/watch?v=I3WS-5_lbnM for more info.

Evaluation Scale

Let x represent your weighted grade average.

A: $88\% < x < 100\%$

B: $78\% < x < 87.99\%$

C: $68\% < x < 77.99\%$

D: $50\% < x < 67.99\%$

F: $x < 49.99\%$

Academic Dishonesty

The College follows the legal opinion set forth by the California Community Colleges' legal department which limits the consequences of an act of academic dishonesty to a failing grade on the activity, assignment, or test involved. For more information on student standards of conduct, discipline procedures, and due process, please see District Policies and Procedures.

(Tentative) Schedule

Week	Reading Assignment	In-Class Assignment	Week	Reading Assignment	In-Class Assignment
1		Q1	4	4.6	Q16
	1.1-1.3	Q2		4.7	Q17
	1.4	Q3			Exam 2
	1.5	Q4		5.1, 5.2	Q18
2	1.7	Q5		5.3	Q19
	1.8	Q6		5.4	Q20
	1.9, 1.10	Q7	5	6.1, 6.2	Q21
	2.1	Q8		6.3	Q22
		Exam 1		6.4	Q23
	2.2, 2.3	Q9		6.5	Q24
3	2.8, 2.9	Q10		6.6	Q25
	3.1, 3.2	Q11		6.7, 7.1	Q26
	3.3	Q12		7.2	Q27
	4.1, 4.2	Q13		7.3	Q28
	4.3	Q14		7.4	Q29
	4.4, 4.5	Q15			Final Exam