

MATH 2600 Linear Algebra
Fitchburg State University
3 undergraduate credits
Summer 2019

Instructor: Dr. Catherine Buell

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Office Hours: TBD

Course days/times: TBD

Location: Shanghai, China AUIA Summer Program

Textbook: *Linear Algebra* 5th Edition or 4th Edition, by David Lay

Course Materials: You will need a calculator for this class (not attached to a phone or tablet and is a TI-84 or less). I suggest bringing the calculator to class and use the same one for homework. Some quizzes will be non-calculator quizzes.

Course Content: The Linear Algebra course serves as a bridge from calculus to the theoretical world of mathematics. Specific topics include: solving systems of linear equations, vector equations, matrix equations, linear independence, linear transformations, matrix operations and determinants, vector spaces, matrix subspaces, bases, eigenvalues and eigenvectors, diagonalization, least-squares problems, and some applications of the aforementioned topics.

Grading: The final grade will be based tests (40%), homework/presentation/attendance (15%), quizzes (20%), and a final exam (25%). The standard Fitchburg State and plus/minus grading system will be used.

FSU	4.0	3.7	3.5	3.3	3.0	2.7	2.5	2.3	2.0	1.7	1.5	1.3	1.0	0.0
Letter	A	A-	A-/B+	B+	B	B-	B-/C+	C+	C	C-	C-/D+	D+	D	F
Numerical	95-100	92-94	89-91	86-88	83-85	80-82	77-79	74-76	71-73	69-70	67-68	64-66	60-63	0-59

Homework/Presentations/Attendance: Homework will be assigned every day. On occasion, homework will be presented. Some days I will randomly select students to put problems up on the board or the overhead. On those days, student grades are assigned by participation in the group discussion and check plus/check/check minus on the homework. So on these days your homework grade includes participation in the presentations (presenting homework and commenting on the presentations) and the completeness of your own work.

Quizzes: In-class activities and announced quizzes can happen throughout the semester. Quizzes will be on HW problems. Quizzes are worth 20% of your grade.

Exams: There will be two tests during the semester each worth 20% and one final exam worth 25%. If an exam is missed, you must contact the instructor (via email) within 12 hours to have any chance to make up the exam. If you missed the exam for a legitimate reason, you must make up the exam before the class following the exam.

Academic Honesty: I expect each student to be honest with themselves and with me and I expect to see YOUR work. I know what the INTERNET might say, I want to know what you say. If you work closely with another student, you should indicate that on your homework. All students should be aware of and follow the college's Academic Integrity Policy which can be found on page 43 of the Undergraduate and Graduate Course Catalog. Any acts of cheating on an assessment (homework, quiz, or exam)

will earn the student a score of zero on **that assessment and may result in a formal accusation** to be reported to the student's Dean, as outlined in the Course Catalog.

Extended Campus Library Services

The Gallucci-Cirio Library at Fitchburg State University provides a full range of library services including borrowing privileges; document delivery (books and articles mailed to your home); Interlibrary Loan; reference assistance via: phone, email, IM, Blackboard's Collaboration and Elluminate tools, Skype and in-person; library instruction; research help and more. Any questions relating to library services should be directed to the Linda LeBlanc, Access Services Librarian, at 978-665-3062 or dllibrary@fitchburgstate.edu. There is also a special section for Distance Learning and Extended Campus Services at <http://fitchburgstate.libguides.com/dlservices> outlining the wide range of services available to you and how to access them.

Expectations:

1. Attendance will be taken every day and students are expected to attend class.
2. Leave all distractions such as newspapers, crossword puzzles, iPods, and work for other courses at home or packed away.
3. Turn off all cellphones in class. Please set your phone to silent and step outside if you must answer a call.
4. Your enthusiasm, your questions, and your excitement are always welcome in class.

How to succeed in this class:

1. Come to class, participate, and take notes.
2. Ask lots of questions.
3. Visit me in office hours and email me or visit the tutor.
4. Ask lots of questions.
5. Keep up with homework and reading the text.

Students With Disabilities: If you have a disability and require accommodations, please contact me during the first two weeks of class or as soon as you become aware of the need, so that your learning needs may be met. You will need to provide documentation of your disability to the Disability Services office. The Disability Services office will help to decide what accommodations are required and will give you a form to present to your instructor.

Course Schedule:

Week	Topics
1	Systems of Linear Equations, Row Reduction, Vector and Matrix Equations, Solutions to Linear Systems
2	Linear Independence, Linear Transformations, Matrix Operations, Inverses, Determinants
3	Vector Spaces, Null Spaces, Column Spaces, Bases, Coordinate Systems, Dimension, Rank, Markov Chains,
4	Eigenvalues and eigenvectors, the characteristic equation, diagonalization, diagonalization of symmetric matrices
5	Inner products, orthogonal sets, least squares problems, SVD (if time allows)