Math 3330: Linear Algebran Syllabus

Tu/Th, 6p-7:50p, PKH 109

Instructor: Andrew Cavaness
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Office: 404 PKH
Office Hours: 5p-6p Tu/Th

Textbook: *Linear Algebra with Applications, 5th Ed, O. Bretscher, Prentice Hall.*

Prerequisite(s): A, B or C in Calculus I; Calculus II strongly encouraged.

Calculators: No calculator is allowed on any test, so you are advised not to use one on the homework.

Exams: The following schedule is subject to change; however, the students will be given at least a week's notice if the following dates change.

Grade Distribution:

Midterm 1 (50 min.)	13%	June 18
Midterm 2 (75 min)	21%	July 7
Midterm 3 (100 min)	29%	August 4
Final Exam (120 min)	37%	August 18

All tests are comprehensive.

Weighting: Each test will be curved separately and its grade (not score) will contribute to your course grade. Good attendance and participation will help your course grade if your course grade is borderline. Any student who does not earn a passing score on the Final Test for this class **will not pass** this class.

Participation: The instructor chooses to record attendance, and it will factor into the students' grades. You are responsible for any, and all, announcements made in class and on blackboard. You are responsible for any, and all, material missed during lecture. If you miss a lecture, you should figure out the material covered by both checking the homework assignment for that day and by asking a classmate.

There will also be an *optional* challenge project that can only positively impact your grade. The details of the project will be posted on Blackboard **after** the second midterm.

Homework: The homework will be posted on the course notes that will be periodically uploaded onto Blackboard. It will not be collected, but is assigned to help you learn the material and prepare for the tests. It is your brain exercise. The tests will be designed to determine whether you have mastered the ideas in the homework and in the lectures. Indeed, at least half of each test will be based on homework problems. An extensive amount of reading may also be assigned, owing to the amount of material that we need to cover.

Student Learning Outcomes: Upon completion of this course, students should be able to do the following: solve systems of linear equations without the aid of a calculator and interpret the results geometrically; give the geometric meaning of linear transformations and express them in different coordinate systems; calculate the kernel, range, determinant, eigenvectors and eigenvalues of a linear map; identify a basis of a vector space, and solve problems involving orthogonal projection and orthonormal bases. Additionally, students should be able to justify and explain their steps in problem solving; in particular, students should be able to construct correct and detailed mathematical arguments to justify their claimed solutions to problems.

Any student planning a career that uses differential equations (e.g., all flavors of engineering) or geometry (e.g., computer science) or data analysis (e.g., financial mathematics) or higher-order thinking skills (e.g., cryptology or geology) will use linear algebra; it is ubiquitous in the sciences. Your future classes in your major will focus on applications; this class will focus on the mathematics.

Important Dates:

First Day of Classes	June 8
Census Date	June 25
Last Day to Drop	July 23
Last Day of Class	August 13
Final Exam	August 18

Help Outside of Class: Feel free to ask the instructor relevant questions during class and right after class. You can also go to the instructor's office hours . You can also e-mail the instructor questions, or you can ask the instructor to look over your solution to a homework problem. No appointment is necessary for office hours.

The Math Clinic in PKH 325 is also available to help you, when they are open.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/ fao/). Any student who drops this course on or before July 23 will receive a W. Note that requests must be submitted to an advisor by the end of business on July 23.

Student Support Services: In addition to the resources provided by this class, UTA provides a variety of

resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students should either visit the reception desk at University College, or call the Maverick Resource Hotline at 817-272-6107, or send a message to resources@uta.edu, or view the information at http://www.uta.edu/resources . Also, a list of tutors is available from the Mathematics Department Office, but note that this list is not endorsed by the Mathematics Department.

The Math Department maintains a list of people who have expressed an interest in tutoring. These persons are not necessarily recommended by the Math Department and they set their own fees. You may obtain a copy of the tutor list in the Math Office, 478 PKH.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Student responsibility primarily rests with informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.

If you require an accommodation based on disability, I would like to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law Title IX such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlingtons tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.I promise that I will submit only work that I

personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents Rule 50101, 2.2, suspected violations of universitys standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the students suspension or expulsion from the University.

Student Disruption: The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each students feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlingtons effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building due to a fire drill:

Students should exit the classroom and proceed left or right to the nearest building exit.

Should we experience an emergency due to a tornado drill, the student should exit the classroom and enter PKH 110, the classroom directly across from PKH 109.

When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

Grade Replacement and Grade Exclusion Policy: These policies are described in detail in the University catalog and can also be founded online at
http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#10
(Scroll about half way down the page).

Drop for Nonpayment of Tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

Course Schedule: The next page outlines a tentative schedule for this course along with the assignment sheet.

As the instructor of this course, I reserve the right to adjust this schedule as needed in any way that serves the educational needs of the students enrolled in this course.
-Andrew Cavaness-

The weekly coverage might change as it depends on the progress of the class. However, you must keep up with the reading assignments.

Week	**Content**
Week 1	• 1.1 - 1.3 • 2.1
Week 2	• 2.2 - 2.3 • Midterm 1
Week 3	• 2.3 - 2.4 • 3.1 - 3.2
Week 4	• 3.3 • 3.4
Week 5	• Midterm 2 • 4.1 - 4.2
Week 6	• 4.2 - 4.3 • 5.1 - 5.2
Week 7	• 5.2 - 5.3 • 6.1 - 6.2
Week 8	• 6.2 - 6.3 • 6.3
Week 9	• Midterm 3 • 7.1 - 7.2
Week 10	• 7.3 - 7.4 • 8.1
Week 11	• Final Exam