

MAT 242 – ELEMENTARY LINEAR ALGEBRA – Fall 2024

Instructor: Dr. Neha Joshi	Office: ECA 303
Class Meeting Day: Tuesdays and Thursdays	Class Meeting Time: 4:30-5:20PM at TEMPE COOR L1-74
SLN: 63682	Email: Neha.Joshi.2@asu.edu
Homework via Edfinity (access through Canvas)	ASU Canvas site: https://canvas.asu.edu
Office Hours: Every Monday and Wednesday 4:30-5:30PM at ECA 303 or Via Zoom	

The instructor reserves the right to make changes to this syllabus as necessary.
Any such changes will be announced and updated in the online syllabus.

Session C: (16 Weeks) 8/22/2024 – 12/6/2024

Prerequisites: MAT 210, MAT 251, MAT 265 or MAT 270 with a C or better.

Learning Outcomes: Course introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills (2 units).

Course Materials:

- Text: *Linear Algebra Without Theory*, by Cristopher Heckman, ASU Custom Edition (only available at ASU bookstores) (**optional**)

- Edfinity access (**required**)

- Graphing Calculator (**required**)

A graphing calculator (e.g., TI83 or TI84 or Casio CFX-9850GB Plus) with the ability to do matrix operations is highly recommended.

Graphing Calculator Workshops Online: A graphing calculator workshop divided into many topical videos for the TI 83/84 family of calculators is available online at: <https://math.asu.edu/computing-resources/graphing-calculator-workshop>

These videos will help you better know how to use these calculators to solve problems in our class.

Computer Access: You will need regular access to a computer with good Internet connection to complete online assignments. You are responsible for completing all assignments on time regardless of any computer issues that may occur.

Canvas: There will be a Canvas site for announcements, grade documentation and learning resources.

Homework: Homework will consist of a combination of online assignments through Edfinity, and written assignments. The Edfinity URL is edfinity.com. Homework due dates will be strictly enforced and will not be

extended on an individual basis. Edfinity allows late submissions with a late penalty of 20% for work done up to a day after the due date.

Email: ASU email is an [official means of communication](#) among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly. **All instructor correspondence will be sent to your ASU email account. All email communication must be done from your ASU account. When emailing me, please include the class you are in (e.g., MAT 242, TTh 4:30 pm) and your full name.**

Important Deadlines/Course Grade Distribution:

- 25% Homework:** The homework will consist of a combination of written assignments that will be posted on the Canvas site and Edfinity, an on-line homework program. The URL is edfinity.com. Each assignment will be open for several days with ample time to complete it. All questions on Edfinity will be given a limited number of attempts. It is your responsibility to check the number of attempts for a given problem before starting to answer it.
- 45% Midterm Tests:**
Test 1: Tuesday 10/1/2024 (Ch. 1, 2, 3)
Test 2: Tuesday 11/12/2024 (Ch. 4, 5)
- 30% Final Exam:** There will be a comprehensive final exam, worth 30% of your grade. The final exam is scheduled for **Dec. TBD**
- Make up tests will only be granted in the event of a documented emergency and the instructor must be notified before the test is given.
 - **Drop Deadline:** the last day to drop the class without receiving W is 9/4/2024.
 - **Course Withdrawal Deadline:** the last day to withdraw from the class is 11/6/2024.
 - **Complete Withdrawal Deadline:** the last day to withdraw from all your session C classes is 12/6/2024.

Edfinity:

Online Homework will be submitted online via the internet using the homework system Edfinity. Edfinity contains questions pertaining to each topic, the due dates for which are listed on the website and in the Canvas calendar.

To enroll in our Edfinity section, please follow the steps below:

1. **Important:** Upgrade to the latest version of Google Chrome or Firefox on a Windows/Mac computer. Other browsers such as Safari may cause issues when you access Edfinity via Canvas.
2. Log into your Canvas course.
3. Click on the Edfinity link in the Course Navigation Menu (on the left side of Canvas) to launch into Edfinity - you will automatically be signed into Edfinity. You **should not** sign up directly on edfinity.com

4. The first time you access Edfinity, you will be prompted to either pay using a debit/credit card (\$35) **OR** enter an access code. If you need to purchase through the Bookstore due to financial aid or scholarship, you can use this direct link: <https://www.bkstr.com/arizonastatestore/product/edfinity-with-office-hours-610030-1>
5. Please enroll directly on Edfinity. This guarantees you the best price available (\$35). If (and only if) you are on financial aid, purchase Edfinity access codes through the bookstore. Remember, enrolling on Edfinity is the most cost-effective option. There is a 2-week grace period during which you may drop the course and receive a refund.

Grading Scale:

A+ = [97,100] ; A = [93,97); A- = [90,93); B+ = [87,90); B = [83,87); B- = [80,83);
C+ = [77,80) ; C = [70,77); D = [60,70); E = [0,60).

Tentative Course Schedule: (Subject to change)

<i>Week</i>	<i>Dates</i>	<i>Sections</i>
1	8/22-8/23	Introduction, 1.0 Review of 2x2 Systems
2	8/26-8/30	1.1 Gauss Elimination and Back-Substitution
3	9/2-9/6	1.2 Gauss-Jordan Elimination and Parameterization
4	9/9-9/13	2.1 Matrix Addition 2.2 Matrix Multiplication
5	9/16-9/20	2.3 Inverses of Matrices 3.1 Expansion by Minors
6	9/23-9/27	3.2 Gaussian Elimination and Determinants Review for Test 1
7	9/30-10/4	TEST 1 on Tuesday 10/1 (Ch. 1-3) 4.1 Subspaces and the Subspace Test
8	10/7-10/11	4.2 Spanning Sets and Linear Independence
9	10/14-10/18	Fall Break, No class on 10/15 4.3 Bases and Dimension
10	10/21-10/25	4.4 Coordinates and Coordinate Conversion 4.5 Row Space, Column Space, Null Space
11	10/28-11/1	5.1 Finding Eigenvalues and Eigenvectors 5.2 Diagonalization
12	11/4-11/8	5.A Applications Review for Test 2

Week	Dates	Sections
13	11/11-11/15	TEST 2 on Tuesday 11/12 (Ch. 4, 5) 6.1 Orthogonal Vectors, Sets and Bases
14	11/18-11/22	6.2 Gram- Schmidt and Normalization 6.3 Orthogonal Projection and Closest Vectors
15	11/25-11/29	6.4 Least-Squares Solutions 6.A Applications Thanksgiving Break, no class on 11/28
16	12/2-12/6	7.1 Matrix Representations 7.2 Properties of Linear Transformations Final Exam Review
17	12/9-12/13	Final Exam on TBD

Edfinity Assignment Deadlines: All assignments are due at 11:59 PM Arizona time, unless otherwise announced by the instructor. It is possible that if you are working on assignments from a different time zone, that Edfinity/Canvas will display the due date based on your time zone. (Example: If an assignment is due at 11:59 PM AZ time on January 30, and you are in NY, your assignment may display as being due at 1:59 AM EST on January 31.) Note that these times are equivalent, so pay close attention to the actual time that the assignment is due, not just the date.

Quizzes: Short quizzes will be given frequently during the semester. They will cover recent lecture material and may or may not be announced in advance. **No make-up quizzes** will be given. Missed quizzes will count as 0's in the student's grade.

Exams: **Two midterm exams** will be taken **during the class period** and will be designed to take the average student approximately 50 minutes to complete. Exams will focus on concepts and applications of topics learned during lecture. A **comprehensive final exam** will be held during final exam week. Details about the final will be announced by the instructor later in the term.

All exams will be taken in the classroom on the dates indicated in the syllabus.

The first midterm will be a no- calculator exam. Non-CAS graphing calculators are allowed on the other exams, but graphing calculators that do symbolic algebra are not allowed on the exams (see below). Your calculator may be viewed during exams, and it will be taken away if it is a CAS calculator or have its memory cleared if anything suspicious is written therein. The instructor has the right to regard any suspicious material in your calculator memory as cheating.

- **Picture ID requirement for testing:** For each exam including the final, you must have a picture ID.
- **Technology Usage Policy:** Any student who accesses a phone or a device for any reason during an exam automatically will receive a score of zero on the assessment and may be referred to the Dean's office for further sanctions. All devices must be turned off and put away.

Make-up Exams: Make-up exams are given at the discretion of the instructor and only in the case of verified medical or other documented emergencies. Students should notify the instructor **before** the exam is given if possible. Call the Math Department Office (480-965-3951) and leave a message or directly notify your instructor immediately. If the event is not an emergency, the instructor must be notified in advance to request make-up. The instructor is not required to accommodate you.

INCOMPLETE Grade Policy:

If there is a last-minute personal or medical emergency, the student may receive a grade of Incomplete and make up the final within one calendar year. The student must provide written documentation and be passing the class at the time to receive an Incomplete. Make-up exams will NOT be given for reasons of non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans. *The Dean of the student's college must approve any exceptions to these rules.*

Academic integrity:

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see <http://provost.asu.edu/academicintegrity>.

Use of ChatGPT and other generative AI's on assignments or exams is not permitted.

NOTE: use of ChatGPT and other generative AIs on assignments or exams is not permitted. Use of such resources on any assignment will result in a score of zero on the assignment and an academic integrity violation report.

Attendance Policy:

- Attendance is **mandatory**. Studies have shown that students that attend class regularly are more likely to complete their courses successfully.
- The maximum number of allowed absences is **4** for classes meeting twice per week and **6** for classes meeting 3 times a week. **Students who exceed the maximum number of absences without giving any notice to the instructor will receive a grade of E.**
- **Do not come to class if you feel sick. However, also do not expect that you will pass if you do not attend class regularly. Students that pass the course with more than a few absences are the rare exception.**
- Information on excused absences related to religious observances/practices that are in accordance with [ACD 304-04](#) "Accommodations for Religious Practices."
- Information on excused absences related to university-sanctioned events/activities that are in accordance with [ACD 304-02](#) "Missed Classes Due to University-Sanctioned Activities."
- If you will be absent from class due to participation in a university sanctioned event/activity or a religious observance or practice, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.

Instructor-Initiated Drop:

At the instructor's discretion, any student who has not attended class during the first week of classes may be administratively dropped from the course. However, students should be aware that non-attendance will NOT automatically result in their being dropped from the course. Thus, a student should not assume they are no longer registered for a course simply because they did not attend class during the first week. It is the student's responsibility to be aware of their registration status.

Photography and Audio/Video recording in the classroom are prohibited except when authorized through SAILS. Any student engaging in such behaviors will be asked to leave. Repeat offenses may result in withdrawal for disruptive behavior as per [SSM 201-10](#)

Canvas Messaging/Email: Messages requiring an individual response will be replied to within 2 business days. If you send an email rather than a Canvas message, be sure it is from your @asu.edu address, or you may not get a reply due to privacy regulations and/or spam filtering. Also be sure to indicate which class you are in.

Class Expectations:

- Join the class on time with your notes and a calculator.
- Ask questions if you'd like further explanation or examples.
- Review your notes daily to prepare for quizzes and upcoming tests.
- Read the text in advance to prepare for the next day's new material.
- Leave phones and electronics other than devices used for notes/classwork off and put away while in the classroom. Specifically, headphones/airpods should be put away during class.

Tutoring Resources:

- The Math Tutoring Centers: <https://math.asu.edu/resources/math-tutoring-center>)
- The Math Community Center: <https://math.asu.edu/resources/math-community-center> -- That's highly recommended
- **University Academic Success Programs:** (<http://tutoring.asu.edu>) provides counseling, in-person and online tutoring (in math *and* other subjects), supplemental instruction, and various other types of support to students. See the website for more information.

Inclusion:

The School of Mathematical and Statistical Sciences encourages faculty to address and refer to students by their preferred name and gender pronoun. If your preferred name is different than what appears on the class roster, or you would like to be addressed using a specific pronoun, please let your instructor know

Please schedule an appointment with me if you have any questions or concerns, or if you are registered with SAILS and will require accommodations in this class.

TITLE IX:

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/fags>.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish discuss any concerns confidentially and privately.

DISCLAIMER

This syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student responsibility to attend class regularly and to make note of any change.

