

MAT 242 – ELEMENTARY LINEAR ALGEBRA – Spring 2025

Instructor: Michael Preheim	Email: michael.preheim@asu.edu
Class Time: TTh 12:00pm-12:50pm Class Location: Tempe DISCOVERY 350	Office: ECA 301 Office Hours: TTh 1:15pm-2:45pm

Disclaimer: All items on this syllabus are subject to change. Any in-class or online announcement, verbal or written, is considered official addendum to this syllabus.

Session C: (16 Weeks) 1/13/2025 – 5/2/2025

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

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

Textbook: *Linear Algebra Without Theory*, by Cristopher Heckman, ASU Custom Edition (only available at ASU bookstores).

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.

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

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. If you sent me an email from a non-ASU email account, I may not respond to it. When emailing me, please include the class you are in (e.g., MAT 242, TTh 4:30 pm) and your full name.***

Midterms: There will be two midterm exams throughout the semester. 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.

Final Exam: There will be a comprehensive final exam at the end of the semester, worth 30% of your grade.

Final Exam Date: Tuesday, May 6 from 12:10pm to 2:00pm

TESTS/HOMEWORK

25% Homework: The homework will consist of a combination of written or online quizzes/groupworks that will be posted on the Canvas site and assignments posted on 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 number of attempts for a given problem before starting to answer it.

45% Midterm Tests:

Test 1: Thursday 2/20/2025 (Ch. 1, 2, 3)

Test 2: Tuesday 4/8/2025 (Ch. 4, 5)

30% Final Exam: There will be a comprehensive final exam, worth 30% of your grade. The final exam is scheduled for Tuesday, May 6 from 12:10pm to 2:00pm.

- 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 1/26/2025.
- **Course Withdrawal Deadline:** the last day to withdraw from the class is 4/6/2025.
- **Complete Withdrawal Deadline:** the last day to withdraw from all your session C classes is 5/2/2025.

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

Grades will be based on your overall weighted percentage. The letter grade assignments are shown below.

97-100 % = A+, 93-96.99 % = A, 90-92.99 % = A-

87-89.99 % = B+, 83-86.99 % = B, 80-82.99 % = B-

77-79.99 % = C+, 70-76.99 % = C, 60-69.99 % = D, 0-59.99 % = E

TUTORING

- The **Math Tutor Center** (free of charge) in WXMLR 116 will be open M-Th 10:00 a.m. - 5:00 p.m., Fri. 10:00 a.m. - 3:00 p.m.
- Engineering Tutoring Center provides tutoring in ECG 150.
- The **ASU Math Community Center** in WXMLR A 303 is an excellent place to get help for the class. The MCC is open Monday to Friday, 9:30 am to 4 pm. Information for the center is at <https://math.asu.edu/resources/math-community-center>

Ed Discussion

This course uses the discussion board Ed for general questions about the course and assignments. Students are encouraged to post questions and other students are encouraged to offer assistance. The instructor will monitor Ed Discussion regularly, offering feedback whenever necessary. Prior to posting a question, please check the syllabus, announcements and existing posts. If you do not find an answer, post your question.

Student Rules of Engagement (Ed Discussion):

- All questions related to classwork should be posted to Ed Discussion. Any homework or classwork questions emailed directly to the instructor will not be answered. Email should be used only for private communications with the instructor.
- Please include the section number and question number in the header (e.g., Sect. 2.2, #3).
- Please include formulation of the problem and a couple lines of your work. You may also photograph your written work and insert the image within the post. Please trim the image size if possible.
- Please be courteous at all times. No vulgar, demeaning, or aggressive language will be tolerated.
- Do not use Ed Discussion to air grievances or to campaign.
- Do not use Ed Discussion for personal messages. In such a case, email the instructor directly.
- Stay on topic. Do not use Ed Discussion for discussions not related to this class.
- Keep a civil and friendly atmosphere. Ed Discussion works best when we have a lot of students willing to engage the forum.
- Please do not expect immediate replies. Instructor usually check the forum daily. In the meantime, other students are encouraged to add feedback and commentary. Instructors may also deliberately stay in the background so as to promote student-led discussions.
- Do not use Ed Discussion to link to or promote third-party forum sites not affiliated with ASU.

Failure to adhere to these requirements may result in your posting privileges being revoked.

TENTATIVE DATES FOR LECTURES AND EXAMS
(Subject to change)

<i>Week</i>	<i>Dates</i>	<i>Sections</i>
1	1/13-1/17	Introduction 1.0 Review of 2x2 Systems 1.1 Gauss Elimination and Back-Substitution
2	1/20-1/24	MLK Day, no class on 1/20 1.1 Gauss Elimination and Back-Substitution 1.2 Gauss-Jordan Elimination and Parameterization
3	1/27-1/31	1.2 Gauss-Jordan Elimination and Parameterization 2.1 Matrix Addition
4	2/3-2/7	2.2 Matrix Multiplication 2.3 Inverses of Matrices
5	2/10-2/14	3.1 Expansion by Minors 3.2 Gaussian Elimination and Determinants 4.1 Subspaces and the Subspace Test
6	2/17-2/21	Review for Test 1 TEST 1 on Thursday 2/20 (Ch. 1-3)
7	2/24-2/28	4.1 Subspaces and the Subspace Test 4.2 Spanning Sets and Linear Independence
8	3/3-3/7	4.2 Spanning Sets and Linear Independence 4.3 Bases and Dimension
9	3/10-3/14	Spring Break, no class
10	3/17-3/21	4.4 Coordinates and Coordinate Conversion 4.5 Row Space, Column Space, Null Space
11	3/24-3/28	5.1 Finding Eigenvalues and Eigenvectors 5.2 Diagonalization
12	3/31-4/4	5.A Applications Review for Test 2
13	4/7-4/11	TEST 2 on Tuesday 4/8 (Ch. 4, 5) 6.1 Orthogonal Vectors, Sets and Bases
14	4/14-4/18	6.1 Orthogonal Vectors, Sets and Bases 6.2 Gram- Schmidt and Normalization
15	4/21-4/25	6.3 Orthogonal Projection and Closest Vectors 6.4 Least-Squares Solutions 6.A Applications 7.1 Matrix Representations
16	4/28-5/2	7.1 Matrix Representations 7.2 Properties of Linear Transformations Final Exam Review
17	5/5-5/9	Final Exam on Tuesday 5/6 (Ch. 6, 7, and some cumulative base knowledge)

SoMSS and University Policies

EXAMS

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.

Any student who accesses a phone or any internet-capable device during an exam for any reason automatically receives a score of zero on the exam. All such devices must be turned off and put away and made inaccessible during the exam.

ATTENDANCE

Attendance is mandatory. For classes that meet two days a week, the maximum number of absences is four. For classes that meet three days a week, the maximum number of absences is six. Your instructor reserves the right to take attendance and to incorporate your attendance as part of your overall grade.

CLASSROOM BEHAVIOR

Classroom disturbances such as talking loudly or showing disrespect to students/faculty will not be tolerated. Electronic media devices such as cell phones, tablets, laptops, music players, etc. are strictly prohibited in class and must be turned off and put away during the duration of class.

Students are required to adhere to the ABOR Student Code of Conduct:

http://www.asu.edu/studentaffairs/reslife/outreach/abor_code.htm

INSTRUCTOR-INITIATED DROP

At the instructor's discretion, any student who has not attended class during the first two week of classes or has not completed the first two Edfinity assignments may be administratively dropped from the course. However, students should be aware that non-attendance/ non-completing assignments would NOT automatically result in 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 two weeks or did not complete Edfinity assignments. It is the student's responsibility to be aware of their registration status.

FINAL EXAM MAKE UP POLICIES

The final exam schedule listed in the Schedule of Classes will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the college in which the course is offered. Make-up exams will NOT be given for reasons of a 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 course instructor may grant a make-up final exam in the following qualifying situations:

- A student has more than three exams on one day, or there is a time conflict between the course final and another final exam. This rule applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus classes.
- A documented accident or medical emergency.
- Situations covered by [ACD304-02](#) or [ACD304-04](#).

INCOMPLETE

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 a 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>.

In this course, all assignments must be completed by the student. Artificial Intelligence (AI), including ChatGPT and other related tools used for creating of text, images, computer code, audio, or other media, are not permitted for use in any work in this class. Use of these generative AI tools will be considered a violation of the [ASU Academic Integrity Policy](#), and students may be sanctioned for confirmed, non-allowable use in this course.

ETHICS

It's highly unethical to bring to your instructor's attention the possible impact of your mathematics grade on your future plans, including graduation, scholarships, jobs, etc. For the university complete policy regarding ethics, including cheating, plagiarism and other forms of academic dishonesty, see the Student Academic Integrity Policy <http://provost.asu.edu/academicintegrity>

DISABILITY ACCOMODATIONS

Qualified students with disabilities who require accommodations are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Students Accessibility and Inclusive Learning Services (SAILs) office is required. Disability information is confidential.

Students who feel they will need disability accommodations in this class but have not registered with SAILs should contact them immediately. Their office is located on the first floor of the Matthews Center Building. SAILs staff can also be reached at: 480-965-1234 (V), 480-965-9000 (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc. Their hours are 8:00 AM to 5:00 PM, Monday through Friday.

POLICY ON THREATENING BEHAVIOR

All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

EXCUSED ABSCENCES

Absences related to religious observances/practices: If you will be absent from class due to 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.

Absences related to university sanctioned events and activities: If you will be absent from class due to participation in a university sanctioned event/activity, 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.

Absences related to illness or quarantine: If you will be unable to attend class due to an illness or quarantine, it is your responsibility to notify the instructor and speak with them about possible accommodations based on your circumstances.

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.

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/faqs>.

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.