

MATH 441/541 (CRN: 26334/26337), WINTER 2025: LINEAR ALGEBRA I

**Lectures.** MWF 12pm-12:50pm at Peterson 105

**Instructor.** Dr. Xiaojing Chen-Murphy

- Email: xchenm@uoregon.edu
- Office Hours: Mondays and Fridays 1-2pm, Tuesdays 12-12:50 in Tykeson 333 (common study area)

**Course Materials.**

- *Textbook and Materials:* Linear Algebra by Stephen Friedberg, Arnold Insel, and Lawrence Spence.  
*Note: you are not required to purchase the textbook; lecture notes will be provided.*
- *Calculators:* Calculators are not allowed in the exams.
- *Prerequisite:* Math 342; one from Math 232, Math 262, Math 307.
- *Course Content:* 1) Reviews on vectors spaces and basic matrix theory. 2). Vector spaces, subspaces, bases and dimensions. 3). Linear transformations and their matrix representations, kernel and range of a linear transformation. 4). Linear Functionals and dual spaces. 5). Inner product spaces and orthogonality. 6). Eigenvalue problems, diagonalization, spectral theorem for normal matrices, and singular value decomposition. 7). Cayley-Hamilton theorem. 7). Jordan canonical forms, minimal polynomials. 8). Applications.

**Homework, Quizzes and Exams.**

- **Homework (22%)** Written homework will be due each Wednesday during class time.
  - Turn in your written homework in person in class on the due date indicated on them. No late homework will be accepted.
  - Label your homework problems clearly and staple all the pages of each homework before turning it in. Written homework should be fully legible; you will be asked to re-submit messy or unreadable papers. *Copying solutions found online or from your peers is plagiarism and hence strictly forbidden.* Assignments contain any of such cheating incidents will not be graded and will receive a zero on that assignments.
- **Quizzes (10%).** There will be weekly quizzes on Fridays except for the midterm exam day.
  - The attendance is mandatory for the days when there are quizzes. All quizzes are in person quizzes.
  - Quizzes are about 10-minute long. Quiz may take place at any time during the 50-minute period of lecture. No make-up time will be given if you miss some or the whole quiz because of absence or arriving late or leaving early.
  - One lowest quiz will be dropped. This is a uniform way of handling illness, family emergency and any other events that may interfere with the course. Thus requests to take quizzes at a time different from the scheduled quiz time will not be granted.
- **Attendance (3%)** This is an in-person class. If you have to miss a lecture, you will need to inform me your absence before the lecture. If you have more than two unexcused absences, your attendance credit will get deducted.
  - 3% credit - one or less unexcused absence
  - 2% credit - two or three unexcused absences
  - 1% credit - four or five unexcused absences
  - 0% credit - five or more unexcused absences
- **Midterm (25%) - Friday, February 7,** 50-minute exam during class time.
- **Final Exam (40%) - Wednesday, March 19 at 10:15am,** 120-minute exam. The final is cumulative.

## Quiz and Exam Rules.

- All quizzes and exams are closed-note, closed-book, and without electronic assistance (including calculators and cell phones). Using any notes or electronic device or communicating with anyone except me during an exam constitutes cheating. Cheating on a quiz or exam will be reported to the university with a recommended punishment of failing the course.
- All quizzes and exams are in person in the regular lecture classroom. The attendance of quizzes and exams is mandatory. Requests to take quizzes, the midterm exam or the final exam at a time different from the scheduled exam time will not be granted. Missed midterms will be handled on a base by case basis.
- If you miss the final exam, you will get zero for the final exam. However, if you miss the final exam and are otherwise passing the class, you may request the incomplete grade for the class. See the University rules regarding the eligibility of incomplete grade inquiries under this link <https://provost.uoregon.edu/grades-incompletes-policy>.

**Grading Policy.** On all written work (e.g. written homework, quizzes and exams) submitted for grading, you are expected to show your work clearly and completely; you will be graded on your work as well as on your final answers, but a correct final answer that is neither supported nor justified by work you have shown will receive no credit. I am happy to address any questions regarding the grading of any submitted work, and I encourage you to ask. However, you must bring such questions to my attention within one week of the date it is returned to the class or no changes will be made in the grade. Your final grade of the course is computed according to the following scale:

**Homework (22%) + Attendance (3%) + Quiz (10%) + Midterm (25%) + Final (40%)**

Your final percentage will be rounded to the nearest whole number. The letter grade will be assigned based on the following table. Note that the instructor reserves the right to adjust grades at the end of the term based on the outcomes of the course.

Percentage	Grade								
98%–100%	A+	88%, 89%	B+	78%, 79%	C+	68%, 69%	D+		
92%–97%	A	82%–87%	B	72%–77%	C	62%–67%	D	0 – 59%	F
90%, 91%	A–	80%, 81%	B–	70%, 71%	C–	60%, 61%	D–		

*Note: Any questions regarding grades will not be answered or discussed via email. You will need to meet with me to discuss any concerns or questions about your grades.*

## Classroom Expectations.

- Students are expected to behave respectfully towards each other and toward the instructor during class time. This includes arriving class on time, and not leaving the class early.
- You may use your tablets or computer to take notes. Otherwise, cell phones, and any electronic devices are not permitted for any activities that are unrelated to the course during lecture time.
- You should read the sections in the textbook before they are covered in the class.
- Arrive before class begins and exit only after class is dismissed. It is distracting to have students entering and exiting, so plan accordingly. If you have to miss a class, you are responsible to make up all the materials you miss.

**Canvas.** Canvas is the place to go for course information and engagement outside of class time. You are responsible for any announcements made on Canvas. To access our course Canvas site, log into <https://canvas.uoregon.edu> using your DuckID. If you have questions about using Canvas, visit the Canvas support

page. Canvas and Technology Support also is available by phone (541-346-4357) or by live chat on the Live Help webpage.

**Learning Environment.** The University of Oregon and I are dedicated to fostering inclusive learning environments for all students and welcomes students with disabilities into all of the University's educational programs. The Accessible Education Center (AEC) assists students with disabilities in reducing campus-wide and classroom-related barriers. If you have or think you have a disability (<https://aec.uoregon.edu/content/what-disability>) and experience academic barriers, please contact the AEC to discuss appropriate accommodations or support. Visit 360 Oregon Hall or <https://aec.uoregon.edu> for more information. You can contact AEC at 541-346-1155 or via email at [uoaec@uoregon.edu](mailto:uoaec@uoregon.edu).

**Academic Conduct.** All students are expected to maintain academic integrity. Cheating will not be tolerated. Cheating includes but is not limited to use of any unauthorized assistance in taking quizzes, tests, or examinations or knowingly providing any unauthorized assistance to another student on quizzes, tests, or examinations. The University Student Conduct Code (<https://dos.uoregon.edu/code-procedures>) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at <https://researchguides.uoregon.edu/citing-plagiarism>. All suspected cases of academic misconduct will be reported to the Dean of Students' Office of Student Conduct and Community Standards.

**Inclement Weather.** It is generally expected that class will meet unless the University is officially closed for inclement weather. If it becomes necessary to cancel class, move the class online (via Zoom), or reschedule an exam while the University remains open, this will be announced on Canvas and by email. Updates on inclement weather and closure are also communicated as described on <https://hr.uoregon.edu/content/inclement-weather-immediate-updates>.