Math 343: Introduction to Linear Algebra, Fall 2025

Instructor: Kevin Milans (milans@math.wvu.edu) (https://milans.us/)
Class Meetings: MWF 12:30pm-1:20pm in ARM 119
Office Hours: TuTh 11am-12pm in ARM 408H; W 4pm-5pm in NRC 125, and by appointment

Welcome: Welcome to Math 343: Introduction to Linear Algebra. I have the highest hopes and expectations for your academic achievement this semester. It is my responsibility to ensure that you have all the tools you need to succeed, including quality instruction and timely feedback. It is your responsibility to use these tools to learn the course material. Hard work and dedication to the course are necessary components of success, but your course grade is ultimately based on how well you understand the course material as measured by quizzes and tests.

Mathematics can be a difficult subject to learn. It is inherently cumulative: the topic we learn today may (and often is) used throughout the semester and in later courses. Resolve now to learn the material thoroughly. The good news is that you don't have to learn alone. I am more than happy to answer your questions during office hours and via email. You are encouraged to work with other students to master course material.

Learning Outcomes and Course Goals: Students will understand the theory of linear systems, matrices, determinants, vector spaces, linear transformations, eigenvalues, and eigenvectors. Students will strengthen their ability to understand and write mathematical proofs, and students will apply the theory to solve computational problems.

Prerequisite: Math 156

Textbook: *Linear Algebra and its Applications*, Sixth Edition, by David C. Lay, Steven R. Lay, and Judi J. McDonald.

Homework: Homework is a crucial part of learning mathematics. Homework will generally be assigned weekly. Homework is evaluated on *completeness*, and, depending on availability of resources, *correctness* on one or two selected problems.

Your homework is expected to be neat and conform to accepted standards for professional work-products. Handwriting must be clearly legible, and margins must be respected. Except for excused absences, late homework is not accepted. Your lowest two homework scores are dropped.

Quizzes: A quiz corresponding to the latest homework will generally be assigned on Fridays. In accordance with the make-up policy, your lowest two quiz scores are dropped. Quizzes missed due to excused absences have the highest priority to serve as dropped quizzes.

Tests: There will be 3 tests, each covering between 1/4 and 1/3 of the course material. You may use one 8.5 by 11 inch sheet of *handwritten* notes during each test. No other aids are permitted. The tests are scheduled for Fri. Sept 19, Fri. Oct. 17, and Fri. Nov. 14. In accordance with the make-up policy, your lowest test score will be replaced by your score on the final exam if doing so will help your grade.

Final Exam: The final exam is Wednesday, December 17, 2:00pm-4:00pm. All students must take the final exam during the scheduled exam period, unless specifically exempted by university rules. You may use one 8.5 by 11 inch sheet of *handwritten* notes during the final. No other aids are permitted. The final exam is cumulative.

Attendance: Attendance is expected and an important part of maximizing your chances for success.

Expected Classroom Behavior: Talking with your neighbors, reading material unrelated to the course, listening to audio entertainment on your headphones, texting, and cell phones are not permitted in class.

Grading Rubric: Course averages are converted to letter grades according to the scale on the right. The instructor reserves the right to lower these thresholds.

Homework	10%
Quizzes	25%
Tests	$15\% \cdot 3 = 45\%$
Final Exam	20%
Total	100%

A:	90–100	B:	80-89.9
C:	70-79.9	D:	60-69.9
F:	0-59.5		

Make-Up Policy: Excused absences that result in a missed homework or quiz are, to the extent possible, accommodated by dropping the assessment. Excused absences have the highest priority for dropping an assessment. In the event that a student's excused absences exhaust the provisions for dropping, make-up work may be required. Students must notify the instructor of excusable absences as soon as possible. If a test must be missed for an excused absence, then a student may arrange to take a test earlier than scheduled, provided that sufficient notice is given to the instructor (at least one week). In case of an extended excused absence, the absence will be treated according to the university's Emergency or Military Leave Policies, as applicable.

Regrade Policy: Regrades may be requested by submitting the original work with a written explanation of your request up to 1 week after the work is returned. Regrade requests are to be used to correct errors in grading. Regrade requests that challenge the amount of a deduction are usually not considered, since deductions for common mistakes are applied uniformly to all students. When regrading, the entire problem(s) in question will be reviewed, and all discovered errors in grading (including any that previously favored the student) will be corrected. The resulting grade may be higher than, equal to, or lower than the original.

Academic Integrity: You are expected to practice the highest possible standards of academic integrity. Any deviation from this expectation will, at a minimum, result in an academic penalty of a score of zero on the assignment or test in question. Additional disciplinary measures are possible. For more information, see the university's Student Conduct Code.