



MATH 256-02 (Linear Algebra)

Fall 2016

Meetings: MWF 11:00-11:50 A.M.

Classroom: 15 North Hall

Office Hours: M & W 9-10; Tu 9-12
F 9-10, 2-3

Instructor: Keith Nabb

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Materials: *Elementary Linear Algebra*, 7th Ed., Ron Larson
Graphing Calculator (e.g., TI 83/84 series)

Description: Systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues and diagonalization theorems will be covered in the course.
Prerequisite: MATH 156 or 166.

Course Grade:

(a) Grades will be assigned according to the following scale:

Average	Grade
90 or above	A
80-89	B
70-79	C
60-69	D
59 or below	F

- (b) **Homework:** At the start of most class sessions, a classmate will work out a homework problem in detail (you will have plenty of prior notice). Participation in facilitating discussion and presenting your solution to the class is worth 15% of the term grade. Evaluation will be based predominantly on your ability to (1) articulate your understanding of the problem, and (2) answer questions (as opposed to just presenting an acceptable solution).
- (c) **Exams:** We will have a total of three exams spaced about every four weeks. In the event of a low performance on a test, your Final Exam score (if higher than your lowest test) will replace your lowest exam score. The three 50 min exams will count for 40% of your grade. No make-ups are granted.
- (d) **Project:** There will be one assigned project during the course of the semester. We will discuss the nature of this project in class. The project is worth 20% of the term grade.
- (e) **Final Exam:** There will be a comprehensive Final Exam worth 25% of the term grade. The Final Exam will take place on Monday, Dec 19 from 10:15 a.m.-12:15 p.m.

Math Center: The math help center is located in 145 North Hall. Drop in during their regular hours for extra help.

Academic Integrity: For any instances of academic misconduct (plagiarism, copying, using notes/formulas when not allowed, etc.) the office of Student Conduct and Community Standards will be called upon for assistance.

Wisconsin Content and Teacher Standards: Refer to the webpage <https://www.uwrf.edu/MATH/WisconsinContentTeacherStandardsMathematicsCourses.cfm> for the standards addressed in this course.

Learning Environment: The UWRF promotes safe, inclusive and effective learning environments that protect the rights and support the interests of both students and faculty. For additional information regarding our inclusivity expectations, academic accommodations, academic conduct expectations and processes, and other syllabi information, please consult <http://go.uwrf.edu/Syllabi>.

1. The University of Wisconsin-River Falls strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment. If you have concerns about such behavior, contact your instructor, the Office of Student Conduct and Community Standards at 715-425-0720, or the Office of Equity, Diversity, and Inclusion at 715-425-3833. For a list of prohibited behaviors and protected classes or to report something that is inappropriate using an online process, please use this form: <http://www.uwrf.edu/EquityDiversityInclusion/incident.cfm>.
2. The University of Wisconsin-River Falls welcomes students with disabilities into its educational programs, activities, residential halls, and everything else it offers. Those who will need academic adjustments or accommodations for a disability should contact the Ability Services Office. Decisions to allow adjustments and accommodations are made by the Ability Services Office on the basis of clinical documentation that students provide to sufficiently indicate the nature of their situation.

Course Calendar: The schedule that follows is tentative and may be adjusted during the semester to accommodate the needs of the course.

Week No./Week of	Topics Covered
1/Sept 5	Syllabus 1.1 (Systems of Linear Equations) 1.2 (Gaussian Elimination)
2/Sept 12	1.3 (Applications of Systems of Linear Equations) 2.1 (Operations with Matrices)
3/Sept 19	2.2 (Properties of Matrix Operations) 2.3 (The Inverse of a Matrix) 2.4 (Elementary Matrices)
4/Sept 26	3.1 (Determinant of a Matrix)

	3.2 (Determinants and Elementary Operations) Review
5/Oct 3	Test 1 3.3 (Properties of Determinants)
6/Oct 10	3.4 (Applications of Determinants) 4.1 (Vectors in \mathbb{R}^n) 4.2 (Vector Spaces)
7/Oct 17	4.2 (Vector Spaces) 4.3 (Subspaces) 4.4 (Spanning Sets and Linear Independence)
8/Oct 24	4.4 (Spanning Sets and Linear Independence) Review Test 2
9/Oct 31	4.5 (Basis and Dimension) 4.6 (Rank of a Matrix)
10/Nov 7	7.1 (Eigenvalues and Eigenvectors) 6.1 (Linear Transformations)
11/Nov 14	6.1 (Linear Transformations) 6.2 (The Kernel and Range of a Linear Transformation) AMATYC
12/Nov 21	6.3 (Matrices for Linear Transformations) Thanksgiving Recess Wednesday-Friday
13/Nov 28	6.3 (Matrices for Linear Transformations) Review Test 3
14/Dec 5	5.1 (Length and Dot Product in \mathbb{R}^n) 5.2 (Inner Product Spaces)
15/Dec 12	5.3 (Orthonormal Bases: Gram-Schmidt Process) Semester Review
Finals/Dec 19	Final Exam Week: MATH 256 Monday, Dec 19 from 10:15 a.m.-12:15 p.m.