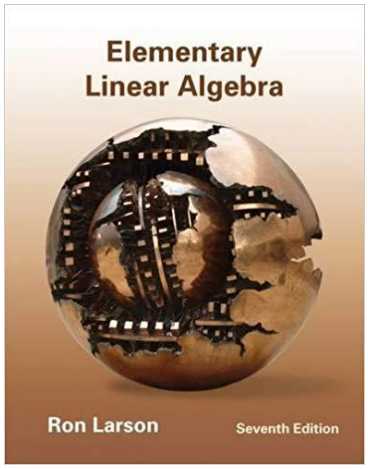
Linear Algebra
Math 324/524
Spring 2020
Section 1: MTWF 11:00AM - 11:50AM in HHH 309B (MWF) and in HHH 312 (Tu)
Section 2: MTWF 3:00PM - 3:50PM in Schneider 303

Instructor



Mckenzie West
She/Her/Hers
Office: HHH 524
Drop-in Hours: Mon 1:30-2:30pm, Tue 9-10am, Wed 12-1pm, Fri 1:30-2:30pm
E-mail: WestMR (at) uwec (dot) edu

Textbook: *Elementary Linear Algebra*, Seventh Edition, by Larson

Course Description

An introductory course in linear algebra including matrix algebra, systems of linear equations, vector spaces, linear transformations, eigenvalues, and applications. Also covers methods of proof and a survey of student-faculty research.

Equity and Inclusion

A major component of this course is group work. I ask that you recognize that all of your classmates have different mathematical backgrounds and experiences. You will work with every single person in this class at some point in time. Respect one another; give everyone a space to answer a question, to ask a question, to have an idea, and to be wrong.

Important Dates

- Last Day to Drop: February 14
- Last Day to Switch to Pre-rec Math Course: February 21
- Last Day to Withdraw: April 17

Course Outcomes

This course helps students meet the following Mathematics Department Common Learning Outcome(s):

- C3: Students will be able to write mathematical proofs.
- C4: Students will be able to work independently and collaboratively on mathematical problems.

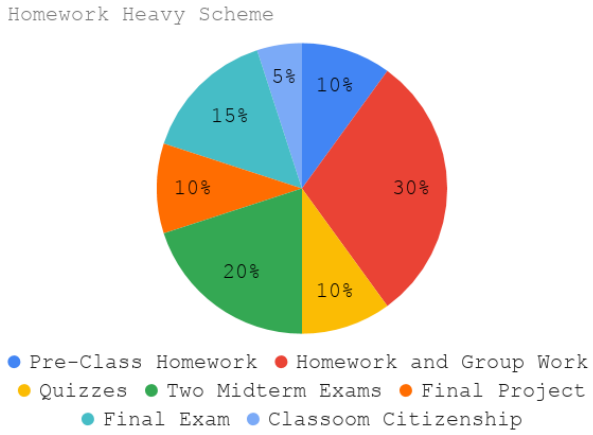
The skills and knowledge needed to meet the outcomes will be taught through lecture, discussion, and activities. You will have the opportunity to demonstrate your progress on the outcome in homework assignments and exam questions. The learning outcome assessment is not a part of your course grade, but instead is used to evaluate learning in the course as a whole. Please note, while this assessment is not

part of your grade, your performance on homework, exams, and activities are part of your grade. The courses specific learning outcomes are the following:

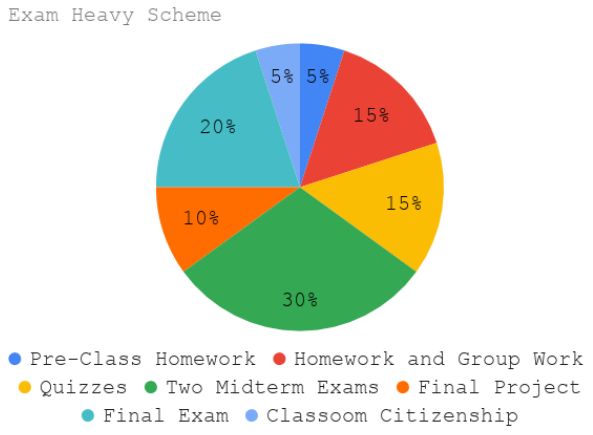
- Solve a system of linear equations (and describe what the solution means).
- Perform matrix operations and state/apply properties of these operations.
- Proof writing. Be able to compose well-written and correct proofs of mathematical statements
- Compute matrix determinants using several different methods.
- Define several terms associated with vector spaces and prove mathematical statements using these terms.
- Understand geometric properties in terms of inner projects and develop math reading skills in order to apply least squares analysis.
- Use the definition and matrices to discover and prove properties of linear transformations.
- Compute eigenvalues, eigenvectors, and eigenspaces of a matrix and determine if diagonalizing a specific matrix is possible.

Evaluation

- **Grading Schemes**
  There are two grading schemes.
  You will be assessed by whichever is best for you.



Pre-Class Homework:	10%
Homework and Group Work:	30%
Quizzes:	10%
Two Midterm Exams:	20%
Final Project:	10%
Final Exam:	15%
Classroom Citizenship:	5%



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Final Exam:	20%
Classroom Citizenship:	5%

- **Pre-Class Homework**
  Before every day of class a reading and reflection question will be assigned. Questions that arise from the reading will help guide class discussion the day they are due.
- **Written Homework and Group Work**
  Homework will be assigned throughout the course and due weekly on **Wednesdays**. There will be both computational and written exercises. These problems will be graded for accuracy and are expected to be complete, well-organized, and clearly written.
- **Quizzes**
  Quizzes will occur several times throughout the semester at the end Chapters 1, 2, 4, and 6. An additional quiz will occur halfway through Chapter 4. They will usually take about 15 minutes at either the end or the beginning of the class period.
- **Midterm Exams**
  There will be two midterm exams. Exams are closed book and closed notes. Calculators will be permitted.
  - Exam 1: Tuesday, March 17
  - Exam 2: Friday, April 24
- **Final Project**
  Working in small groups, you will be studying, presenting on, and writing about an application of linear algebra.
- **Final Exam**
  The cumulative final exam. As with the midterm exams, the final exam will be closed book and closed notes. This exam will be a common final with the other section of the course.
- **Classroom Citizenship**
  This classroom will allow us to cultivate and grow a community in which everyone is participating together. Please arrive on time and stay the entire class period. If you need to leave early or arrive late for any reason, please let me know. I will also expect you to participate during in class worksheets and activities. Treat your classmates with respect and always remember that everyone belongs.

Collaboration

You are expected to work together on homework sets, though everyone is required to write up and submit their own solutions, unless otherwise stated.

Make-up Policies

No late homework will be accepted. If you must miss a quiz/exam/or a class with a group work assignment, you must inform me beforehand so we can make other arrangements. Please note that a "must miss" does not include going on vacation/home, not being prepared, or work.

If you are excused for a university field trip or sporting event, inform me and provided the documentation **at least two class periods before the event**. Although students will not be penalized when absences are authorized, it is important to understand that in some cases the make-up work may be significantly different from the original assignments, exams, etc.

Attendance Policy

You are expected to attend class every day. Consistent with university policy, attendance will be taken each class period to ensure you keep your insurance and financial aid.

Resources

- **Drop-in Hours**: These are designated times where I will be available in my office. Stop by with questions or concerns about the class. Every question is welcome. We all have questions and need clarifications sometimes. HHH524
- **Student Success Center**: CENT2104 - A wonderful resource that includes:
  - Academic Skills Center - Free peer tutoring!
  - Services for Students with Disabilities - Any student who has a disability and is in need of classroom accommodations should contact the instructor and the Services for Students with Disabilities Office in Centennial Hall 2106 at the beginning of the semester
- **UWEC Counseling Services** – A place on campus where you can find someone to talk to when you're feeling hopeless, lonely, depressed, confused, upset over a relationship, or just plain stressed. Call for an appointment: *(715) 836-5521*.

Accessibility

If you are in need of accommodations, please speak with me before/after class or in my office as soon as possible so that we can make arrangements that suit your needs.

Academic Conduct

Please do not ask the internet to do your homework for you. For one, the answers are often wrong. For two, we're here to learn. We do homework to prepare ourselves for the exam, if you're not understanding the homework on your own, how will the exam go?
I ask that you only submit your own work in order to ensure that you are indeed the one learning the material and meeting the objectives. The disciplinary procedures and penalties for academic misconduct are described on the UW-Eau Claire Dean of Students web site: https://www.uwec.edu/kb/article/blugold-student-conduct-code/.

Course Notes

Do Not Post Class Notes Online
I do not consent to having notes from my class uploaded to the internet, including commercial note-selling websites such as StudySoup. Some companies target students and solicit course material acting as if they are working in coordination with colleges and universities, but that is not true for this class. This means that you do not have the right to provide your notes to anyone else or to make any commercial use of them without express prior permission from me. Unless you are a qualified disabled student, you do not have the right to record my lectures. Inappropriate use of notes may be in violation of the Blugold Conduct Code and sanctions will be pursued accordingly.

Technology

Students are encouraged not to engage in disruptive use of technology. The use of calculators or mathematical software will be allowed for most homework exercises.
You are absolutely **not** to use resources such as Chegg and StackExchange for homework help or answers.
DO NOT GOOGLE THE ANSWERS!