

University of Illinois at Urbana-Champaign Department of Mathematics

ASRM 406, Linear Algebra and Applications, Spring 2021

COURSE INFORMATION and SCHEDULE

**Instructor:** Joseph Rosenblatt, Department of Mathematics,  
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**Text:** Linear Algebra and Its Applications, 5th Edition, Pearson, 2016

**Authors:** Lay, Lay, and McDonald

**Content:** This course emphasizes techniques of linear algebra. Topics include linear equations, matrix theory, vector spaces, linear transformations, eigenvalues and eigenvectors and inner product spaces. In addition, computational methods and applications to data science, finance, economics, and actuarial science will be explored.

**Course Materials:** Besides the text Linear Algebra and Applications, 5th Edition, by Lay, Lay, and McDonald, various reading and homework materials will be provided by the instructor. The plan is to cover as much of the first 8 chapters of the text as is possible.

**Course Structure:** There will be a number of modules provided for student listening and reading as the academic term progresses. In addition, at least at the start of the term, two times a week there will be online classes. These classes will be on

- **Tuesday and Thursday, 9:30-11:00 AM CST**, starting January 26 and ending May 4. These online classes are meant to allow the instructor to discuss the course content with various computations and examples. and to provide additional content descriptions. These online classes also give the students a chance to ask questions about the reading and the homework assignments, and to engage in a variety of active learning opportunities. These classes will be recorded and made available for student viewing.

**Student Assignments:** Besides the reading of the text, weekly assignments will be given to the class. The assignments will include homework from the text and additional problems developed by the instructor. The homework assignments will be due each Monday following the week of work. The first assignment will be due on February 1. The last assignment will be due on May 3.

**Testing:** Because of the constraints of this online course, there will not be proctored testing. Instead, there will be weekly homework assignments, two midterms and a final, which the students are to complete on their own, and hand-in by the stated deadlines.

**Course Honor System:** It is expected that students will do their own work on midterms and the final. There is no objection if students want to discuss with others any of the homework. However, for this part of the course too, it would be best if the students do this work on their own as much as possible.

As support for this **Course Honor System**, if there are questions about any material (homework, midterms, or final exam), the students should contact the instructor for information, clarification, and help.

Students are expected to take the view that their learning well the course content will benefit them in their future education and work. The only way that this can be the case is that each student does their best to learn the course content for themselves, and that they not submit the work of any others as their own work.

**Grading:** Grading in the course will be based on the following:

- Homework Assignments: 25%
- Midterm I: 25%
- Midterm II: 25%
- Final: 25%

**Major Term and Course Dates:**

January 25: First day of classes  
February 17: Non-instructional day  
March 24: Non-instructional day  
April 13: Non-instructional day  
May 5: Last day of class  
May 6: Reading Day  
May 7-14: Final exams

**Course Homework and Exam Due Dates:**

Homework 1: February 1  
Homework 2: February 8  
Homework 3: February 15  
Homework 4: February 22  
Homework 5: March 1  
Midterm I: March 8 (Midterm I will be given out March 1)  
Homework 6: March 15  
Homework 7: March 22  
Homework 8: March 29  
Homework 9: April 5  
Homework 10: April 12  
Midterm II: April 19 (Midterm II will be given out April 12)  
Homework 11: April 26  
Homework 12: May 3  
Final Exam: May 12 (Final Exam will be given out May 3)

**Course Deadlines:** All deadlines will apply unless a student has a documented reason for a delay in handing in work. The reason for a request for a delay, and the documentation, needs to be given to the instructor as much in advance as possible. This typically would be because of illness, but there could be other reasons for this request.