University of Illinois at Urbana-Champaign Department of Mathematics

ASRM 406, Linear Algebra and Applications, Fall 2021

COURSE INFORMATION and SCHEDULE

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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 text reading assignments. Also, all classes will be recorded so that students can listen to them during the academic term.

The plan is that there will be an online class for ASRM 406 every Tuesday and Thursday, 3:30 to 4:50 Central US Time, starting August 24 and ending December 7. These online classes will give the instructor time to talk about the course content with various computations and examples, using the text as a guide for this content. The classes also give the students a chance to ask questions about the lectures, the text reading assignments, and the homework assignments.

Note: The fall 2021 academic term has August 23 as the first day of classes and December 8 as the last day of classes.

Student Assignments: Besides the reading of the text, weekly homework assignments will be given to the class. The assignments will include problems from the text and possibly additional problems developed by the instructor. The homework assignments will be due each Monday following the first week of class. The first assignment will be due by the end of the day on August 30. The last assignment will be due by the end of the day on December 6.

Testing: Because of the constraints of this online course, there will not be any proctored testing. Instead, there will be take-home exams for students to work through on their own. There will be two midterms and a final, which the students are to complete 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 student 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 work and education. 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 Exam: 25%

Major Term and Course Dates:

August 23 First day of classes overall
August 24 - First day of class for ASRM 406
September 6 Labor Day, no classes
November 22-26 Fall Break
December 7, Last day of class for ASRM 406
December 8, Last day of classes overall
December 9 Reading Day
December 10-17 Final exams

Course Homework and Exam Due Dates:

Homework 1: August 30
Homework 2: September 6
Homework 3: September 13
Homework 4: September 20
Homework 5: September 27
Midterm I: October 4 (Midterm I will be given out September 27)
Homework 6: October 11
Homework 7: October 18
Homework 8: October 25
Homework 9: November 1
Homework 10: November 8
Midterm II: November 15 (Midterm II will be given out November 8)
Homework 11: November 29
Homework 12: December 6
Final Exam: December 15 (Final Exam will be given out December 6)

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 such a request.