Instructor: Dr. Lance Nielsen

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Office Hours: Monday: 9:00 - 10:00; Tuesday: 11:00 - 1:00; Wednesday: 9:00 - 10:00 and 3:30 - 5:00; Friday: 9:00 - 10:00 and 3:30 - 5:00. I will, most Thursdays, be in Lincoln at UNL.


Topics Covered:

**Chapter 1: Vector Spaces**
We will cover sections 1.1 - 1.7
(Note: I will spend little time on fields, an algebraic construct we will need to know a bit about.)

**Chapter 2: Linear Transformations and Matrices**
We will cover sections 2.1 - 2.6.

**Chapter 3: Elementary Matrix Operations and Systems of Linear Equations**
We will cover sections 3.1 - 3.4

**Chapter 4: Determinants**
We will cover sections 4.1 - 4.5

**Chapter 5: Diagonalization**
We will cover sections 5.1, 5.2, and 5.4

**Chapter 6: Inner Product Spaces**
We will cover section 6.1 - 6.9
Chapter 7: Canonical Forms
We will cover sections 7.1 - 7.4

Computer: We will, at times, employ Maple to help with some detailed calculations and to help demonstrate certain things from the course. Maple is available in the computer lab in room 308 of the Old Gym.

Homework: There will be regular homework which will account for 40% of your grade. Each homework assignment will be weighted equally.

Exams: There will be a take-home midterm exam that will account for 25% of your grade. The final exam will consist of an in-class multiple choice test that will be worth 10% of your grade and take-home component that will be worth 25% of your grade.

Comments:
1. All Maple work needs to be fully documented and “commented". Maple work that consists of only input and output will be ignored.
2. All homework and exams need to be neatly written and it is preferable that your work be written on one side of each page. Unreadable work will not be graded. Further, as this is a 500-level course, more needs to be written than just the necessary calculations; explain to me what you are doing. Proofs need to be written clearly and concisely.
3. There will quite likely be proof problems on each homework assignment and exam. This is a proof-based course.
4. Late homework will not be accepted under any circumstances. Late exams will be accepted only under the most dire circumstances. I reserve the right to ask for written verification of any reason(s) that cause you to turn in an exam late.