Math 21, Summer 2017

MW, 9:00am-12:30pm, Physical Sciences 130

Instructor: Jamison Barsotti

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Office Hours: MW, 1:30pm-2:30pm
Office Location: McHenry 1266

TA: Natalya Jackson

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Section Time: TuTh, 2:00pm-3:00pm
Section Location: Social Sciences 2 165
Office Hours: TuTh, 3:15pm-4:15pm
Office Hours Location: McHenry 1261

Text: Linear Algebra, 3rd Edition
Author: Hefferon

Grade Distribution:

Homework (28%)

Midterm (22%):
The midterm will be held on day 5 of the course.
Note: Because of the few number of days we have available, there will be a short lecture after the midterm is given.

Final Exam (50%):
The final will be held on the last day of the course at the usual time and place.

DRC Accommodations:

If you qualify for classroom accommodations because of a disability, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible, preferably within the first week of the Summer Session. Contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu for more information.

Tentative Course Schedule:

Week 1: Notation, Vectors in $\mathbb{R}^n$ and Matrices, Solving Linear Systems, Reduced Matrices

Week 2: Vector Spaces, Subspaces and Spanning Sets, Linear Independence, Basis and Dimension

Week 3: Midterm, Linear Transformations, The Matrix of a Linear Transformation

Week 4: Change of Basis, Linear Geometry and Inner Products, The Graham-Schmidt Process, Determinants

Week 5: Eigenvalues, Similarity, Diagonalization, Characteristic Polynomial, Final Exam

A note about this course and the homework:

Depending on your math background, this course may be something of a transition course from computation based math classes to classes that require proof writing. Although this is not a proof writing course and many of the problems will be computational, there will be many other problems that will be more abstract and conceptual. You'll be asked to learn important definitions and theorems and how to use them. You'll also may be asked to justify why certain statements are or are not true by giving valid reasons and/or proper counterexamples.

This course covers quite a bit of material in a short amount of time. As such, your part is to absorb as much of it as you can through a mixture of attending lecture, personal study, and working on exercises. Working on exercises daily will be an integral part to success in this course, as with any math class. Homework assignments will be given at the end of each lecture and a short, three question quiz based on the assignment will be given at the beginning of the next lecture. Two of the three questions will be taken straight out of the assignment and the third will be a short answer question about a concept covered in the previous lecture. **The quizzes will be how the homework is graded and the assignments will not be collected.** The quizzes will be given at the very beginning of each lecture and at no other time. If you're the type of person who likes to show up 20 minutes late to a lecture, then you might want to convince yourself the course starts at 8:40am.

The text for this course is available for free as an e-text. You can access it by clicking here. You can also access various links to resources for the text here, including solutions to the homework problems and a link to buy a physical copy of the book on Amazon.

Lastly, the lectures are very long. Feel free to bring snacks!