Math 2210 - Applied Linear Algebra

Sections 02 and 06
Instructor: Harris B. Daniels
Website: http://www.math.uconn.edu/~harris/math2210s11
E-mail: Harris.Daniels@uconn.edu
Office:MSB 329
Office Hours: TBA

BRIEF COURSE DESCRIPTION: Linear algebra is a branch of mathematics that studies vectors. Working according to certain rules, it mainly uses families of vectors called vector spaces or linear spaces, along with functions that input one vector and output another. Such functions that are well-behaved are called linear maps (or linear transformations or linear operators) and can always be represented by matrices. Linear algebra is central to modern mathematics and its applications. An elementary application of linear algebra is to find the solution of a system of linear equations in several unknowns.

TOPICS COVERED: I plan on covering through chapter 6 or 7 in the third edition of *Linear Algebra and Its Applications* by David C. Lay. Topics include (but are *not* limited to) linear equations, linear independence, matrix algebra, the invertible matrix theorem, determinants, vector spaces, linear maps. Eigenvalues and eigenvectors and orthogonality. If time permits I would like to cover inner product spaces, diagonalizability, quadratic forms and constrained optimization.

HOMEWORK: Homework will not be collected, but will be used to write the weekly quizzes and exams. It should be noted that even though I will not be collecting the homework, it will be VERY difficult to do well in this course if you do not do the homework. Skills are best learned over time; you can't learn several weeks of material from this course right before a test. The list of suggested homework problems can be found on my website.

QUIZZES: We will have weekly quizzes on the material covered the week before unless there is an exam that week. I reserve the right to have pop quizzes. Old quizzes can be found on my website.

EXAMS: There will be 2 midterm exams and a final.
Exam 1[†] - Friday, March 4th - Chapters 1, 2 and 3
Exam 2 - Friday, April 15th - Chapters 4, 5 and 6.1
Final Exam - Friday, May 6th - Cumulative

[†] Please note that Exam 1 is the Friday before spring break. Please plan accordingly.

MAKEUP POLICY: Late work will not be accepted. If a true emergency arises, and you must miss an exam or quiz, you are responsible for notifying me beforehand, supplying proper documentation, and scheduling a makeup exam. On February 2, 2009, the University Senate passed a motion about religious observances which stipulated that "Students anticipating such a conflict should inform their instructor in writing within the first three weeks of the semester, and prior to the anticipated absence, and should take the initiative to work out with the instructor a schedule for making up

missed work. For conflicts with final examinations, students should, as usual, contact the Office of Student Services and Advocacy (formerly the Dean of Students Office)."

COURSE GRADE:

Quizzes	15%
Exam 1	25%
Exam 2	25%
Final	30%
Participation	5%

ACADEMIC INTEGRITY: *From the UConn Policy on Academic Misconduct.*

A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgment of the work and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned.

Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved.

A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in The Student Code. Sanctions shall include, but are not limited to, a letter sent to the Dean of Students of the University; a grade of 0 on the assignment, quiz or exam; a grade of F for the course.