

**MATH M311: TOPICS IN APPLIED MATHEMATICS  
SPRING 2009: SECTION 502**

**Professor Eric Rowell**

Office: Milner 210

Phone: 845-2833

email: rowell@math.tamu.edu

webpage: <http://math.tamu.edu/~rowell>

**Course:** meets MWF 12:40-1:30pm CE 136.

There will be no (official) class during Dead Week: 5/4-5/8, and **no final exam**.

**Consultation:**

MW 11am-12pm

and by appointment (email me or stop by).

**Topics covered:** Matrices, determinants, systems of linear equations, eigenvalues, eigenvectors, diagonalization of symmetric matrices, inner product spaces and further topics as time permits. Please see the syllabus for an approximate schedule. Familiarity with most of the material from Chapter 1 will be assumed.

**Prerequisites:** Completion of M221, M251 or M253 or equivalent, and M308 or concurrent enrollment. It is expected that you have seen most of the material from Chapter 1 of the text.

**Course Objectives:** By the end of this course you should be able to apply linear algebraic techniques to problems from physics, computer science and engineering as well as understand the abstract concepts behind them.

**Textbook:**

Williamson and Trotter, *Multivariable Mathematics, 4th Edition*.

**Grades:**

Three exams worth 25% homework worth 25%. **There will be NO FINAL EXAM.** The standard grading scale will be in effect: 90-100=A, 80-89=B, 70-79=C 60-69=D 0-59=F, with rounding to whole percentages.

**Exams and Homework:**

There will be three 50 minute in-class exams. Homework will be assigned daily, collected

Fridays at the beginning of class, and a selection of the problems will be graded.

**Tentative Exam Dates:** Feb. 27th, Apr. 1st and May 1st.

**Attendance:** is crucial to your success in this class. Plan ahead, and arrive to class on time. You are responsible for all information presented in class, including but not limited to: announcements, changes to the syllabus, homework assignments and material presented in lectures. If you miss a lecture, you should get notes from a classmate.

**Make-Up Exams:** will only be given in cases of excused absences outlined in the Student Rules, see <http://student-rules.tamu.edu/rule7.htm> for details. Documentation is required for all excused absences. For injuries/illnesses of less than 3 days, the “Explanatory Statement for Absence from Class” is acceptable.

**Academic Integrity:** Remember the Aggie Honor Code: “An Aggie does not lie, cheat or steal or tolerate those who do.” See <http://www.tamu.edu/aggiehonor> for the university policies on violation of the Honor Code. Cheating includes receiving or providing help on exams, copying work or allowing others to copy your work without instructors permission and using any unapproved form of technology or notes on exams. Cheaters never prosper, and disciplinary action will be taken.

**Disabilities Act:** The Americans with Disabilities Act is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. In particular, this legislation requires that students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. For more information, contact the Disability Services Office in Room B116 of Cain Hall or call 862-4570. I must have documentation from the DSO of the necessary accommodations at least 2 days **before** any quiz or exam in order to make appropriate arrangements.

**Some Unsolicited Advice:**

We cannot all be geniuses, so we must learn to be resourceful. Within the limits of academic integrity, you should use the resources of the library, the internet and study groups. Mathematics does not live in a vacuum: seek out connections between what you learn in this class and your other subjects such as physics and engineering. This will help motivate the concepts and lead to a more complete understanding.