

MATH 311, Section 500
Topics in Applied Mathematics
Fall 2009

Instructor: Rudolph Lorentz

Time: UTR 8:00-8:50

Location: 212

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Office hours: UTR 9:00 – 9:50 and by appointment.

Text: Richard E. Williamson and Hale F. Trotter, *Multivariable Mathematics*, 4th ed., Pearson Prentice Hall, Upper Saddle River, N.J., 2004.

Prerequisites: Math 251; Math 308 or concurrent enrollment therein.

Course content: This is an advanced course in linear algebra with applications to series and differential equations. Topics to be covered include: matrices, determinants, systems of linear equations, eigenvalues, eigenvectors, diagonalization of symmetric matrices, inner product spaces, orthogonal functions, Bessel functions, Fourier series.

Grading system: There will be a total of 400 points. There will be 2 in-class tests and a final comprehensive exam. The in-class tests and the final are worth 100 points (or 25% of the final grade) each. There will be 12 weekly quizzes and 6 Matlab assignments, which together will account for another 100 points (or 25% of the final grade). The 10 best quizzes and the 5 best Matlab assignments will be counted. Each quiz counts for 7 points and each Matlab assignment counts for 6 points.

The final grade will be assigned according to the 90–80–70–60% scale, that is, A for 360+ points, B for 359-320 points, C for 319–280 points, D for 279–240 pts, and F for 239 or less points.

Make-ups: Make-ups for missed tests will only be allowed for a university approved excuse in writing. Wherever possible, students should inform the instructor before a test is missed. Consistent with University Student Rules, students are required to notify the instructor by the end of the next working day after missing a test. Otherwise, they forfeit their right to a make-up.

There will be no make-ups for missed quizzes or Matlab assignments..

Academic integrity: Although students are encouraged to discuss homework problems, each student is expected to write his/her own solutions. Copying another student's work is dishonest and academically worthless.

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