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MATH 311, Section 506

Topics in Applied Mathematics

Fall 2009

Instructor: Yaroslav Vorobets
Time: TR 12:45 – 2:00 p.m.
Location: *Milner 216* (moved from BLOC 111!)
Web page: `http://www.math.tamu.edu/~yvorobet/MATH311/`

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Office: Milner 004 (phone: 845–0849, e-mail: `yvorobet@math.tamu.edu`)

Office hours: Wednesday 10:00 a.m. – 12:00 p.m., Thursday 10:00 – 11:00 a.m., and by appointment.

Text: Steven J. Leon, *Linear Algebra with Applications*, 7th ed., Pearson Prentice Hall, Upper Saddle River, NJ, 2006 (`http://www.prenhall.com/leon`) and Murray R. Spiegel, *Schaum's Outline of Fourier Analysis with Applications to Boundary Value Problems*, 1st ed., McGraw-Hill, 1974.

Prerequisites: MATH 221, 251 or 253 (multivariable calculus); MATH 308 (differential equations) or concurrent enrollment therein.

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

Grading system: There will be 2 in-class tests and the final comprehensive exam. The tests are worth 90 points (or 22.5% of the final grade) each, the final exam is worth 100 points (or 25% of the final grade). Extra credit can be earned by solving bonus problems. Also, there will be homework assignments which will account for another 120 points (or 30% of the final grade). The final grades will be assigned according to the 90–80–70–60% scale, that is, A for 360+ pts, B for 320–359 pts, C for 280–319 pts, D for 240–279 pts, and F for less than 240 pts.

The *tentative* dates for the 2 tests are October 13 and November 12. The final exam is scheduled for Wednesday, December 16, 8:00 – 10:00 a.m.

I will assign and collect homework about once per week. Late homework will be accepted only for legitimate reasons and may be penalized if circumstances warrant.

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 rights to a make-up.

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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Students with disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Disability Services Office, in Room B116 of Cain Hall or call 862–4570.