

SYLLABUS FOR MATH 401, FALL 2015

Monday, Wednesday, Friday 11:00 a.m. - 11:50 a.m.
MTH 0201

Prerequisites: A C- or better in one of MATH 240 or MATH 461 or MATH 341. Familiarity with MATLAB is also required.

Text: Applied Linear Algebra and Matrix Analysis by Thomas S. Shores (available for free from UMD).

Instructor: Dr. Wojciech Czaja

Office: MTH 2105

Office Hours: Wednesday 12:00 - 12:50, Friday 9:00 - 9:50, or by appointment

Phone: (301) 405 - 5106

Email: wojtek (at) math (dot) umd (dot) edu

Class Web Page: www.math.umd.edu/~wojtek/401_15.htm

Exams: There will be 3 midterm exams during the semester, each for the total of 100 points. The lowest score is dropped. They are tentatively scheduled on October 12, November 4, and December 2. The final exam is worth 200 points and is scheduled on December 16, 8:00-10:00am.

Calculators: Calculators will NOT be allowed for the exams, but small (5 x 3 in.) note cards will be allowed during the exams.

Homework: On Friday of the week that has no exam scheduled, homework will be assigned. (Homeworks are due the next Wednesday at the start of the class.) Each one is worth 25 points, and there will 10 such assignments. The lowest 2 scores (including absences) are dropped. Late homework will not be accepted.

Grading: The maximum point total is 600 points and the total used to calculate the final grade is the minimum of the two numbers: 600 points and the largest score in the class. The setting of letter grades will be based on the number of points and will be no worse than: 60% - D, 70% - C, 80% - B, 90% - A.

Academic integrity: The University makes me remind you about its academic integrity policies. So I do. Nobody, however, has to remind me that part of my job is to make sure that these policies are obeyed.

Attendance and absences: You are responsible for the material covered in class, whether you attend or not. You are also responsible for the announcements made during class; they may include changes in the syllabus.

The instructor will adhere strictly to the official university policy on makeup exams. In particular, it is the policy of the University to excuse the absences of students that

result from the following causes: illness of the student, or illness of a dependent; religious observance (where the nature of the observance prevents the student from being present during the class period); participation in university activities at the request of University authorities; and compelling circumstance beyond the student's control. Students claiming excused absence must apply in writing and furnish documentary support for their assertion that absence resulted from one of these causes. Moreover, foreseeable absences (such as those resulting from religious holidays or participation in university-sponsored events) must be submitted in writing to the instructor by Sept. 11. (See also <http://www.testudo.umd.edu/soc/atedasse.html>)

Specifically, for medically necessary absences, if you are absent on days when tests or quizzes are scheduled, you are required to notify me in advance, and upon returning to class, bring documentation of the illness, signed by a health care professional.

Disabilities: If you have a disability disallowing you to test under the usual time or in-class conditions, you may contact the office of Disabled Students Services (DSS) in Shoemaker. **(Please let me know by Sept. 11 if you think you may require these services.)** If they assess you as meriting private conditions and/or extra time, then you may arrange to take your tests at DSS, with extra time as they indicate. You must arrange this well in advance of a test (in particular: no retakes). **Remember: I need to sign the document.**

Emergency closures: In case of an emergency that closes the University for an extended period of time (for example, due to inclement weather), be sure to access your email for instructions from me. Also check the University's home page or call 301-405-SNOW for snow closure information. Should any classes or exams be cancelled, please check the class schedule page for updated schedule information.

Course evaluations: Your participation in the evaluation of courses through CourseEvalUM is important to us, and helps improve teaching and learning at the University. CourseEvalUM will be open for you to complete your evaluations at the end of the Fall semester. Please provide feedback on the course, the professor, and the TA by Saturday, December 12, 2015. Evaluations are anonymous and will not be available to faculty and TAs until next semester, so they cannot possibly affect your grade.

You can go directly to the website (www.courseevalum.umd.edu) to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing the summary reports for thousands of courses online at Testudo.

OUTLINE OF MATERIAL

Linear systems of equations and Gaussian elimination

Matrix algebra and determinants

Vector spaces, subspaces, bases and dimension

Norms, inner products, and orthogonality

The eigenvalue problem

Normed and Inner-product vector spaces

Gram-Schmidt algorithm