

AM2811b—Linear Algebra II

January—April 2013

Instructor: Xingfu Zou

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Office Hours: Wednesdays 10:00-12:00

Lectures: Mon-Wed-Fri, 12:30-1:30pm, in room WSC-240

Textbook: *Applied Linear Algebra* by Peter J. Olver and Chehrzad Shakiban Prentice Hall, 1st edition, 2006, ISBN-10: 0131473824

A Solutions Manual also exists for this book but it does not have much more information than the answers at the back of the book.

Authors Web Page for Text: <http://www.math.umn.edu/olver/ala.html>

(The web page has some corrections to the Solutions Manual, for example.)

Contents: The course covers Chapters 2, 3, 4, 5 and 8, including the following topics:

Vector space examples, inner products, orthogonal sets including trigonometric functions, wavelets, projections, least squares, normal equations, Fourier approximations, eigenvalue problems, diagonalization, defective matrices. Coupled difference and differential equations; applications. Singular Value Decomposition, image approximations. Linear Transformations, Graphics. Applications to the sciences and other areas will be an integral part of the course.

Course Evaluation:

Midterm 1 (25%), Friday, February 15, 7:00-9:00pm;

Midterm 2 (25%), Friday, March 15, 7:00-9:00pm;

Final exam (50%), date and time to be set by the registrar's office.

Note: You will need a note from your Deans Office if you have a conflict or if you miss the exam due to illness. In most cases, we will re-weight to the other midterm and the final exam, rather than writing a make-up.

Addendum to all Applied Mathematics Course Outlines

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your faculty's Deans Office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a Recommendation of Special Examination form must be obtained from your faculty's Deans Office immediately. For further information please see:

<http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an on-campus medical facility or request a Records Release Form (located in the Deans Office) for visits to Student Health Services. The form can be found here:

[https://studentservices.uwo.ca/secure/medical document.pdf](https://studentservices.uwo.ca/secure/medical%20document.pdf)