

## Course Information

### **Multivariable Calculus, Linear Algebra, and Differential Equations I (Honors) Math 340-0201**, Spring 2007

Class Meeting Time and Place: TTh 9:30-11:15, Math 0303

Instructor: Patrick Shipman

Office: Mathematics Building, Rm. 4101

Office Hours: Monday 3-4, Tuesday 11:30-12:30, Wed. 1-2, & by appointment. Please come!

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Course webpage: [www.math.umd.edu/~shipman](http://www.math.umd.edu/~shipman)

**Prerequisites:** Thorough knowledge of one-variable calculus and an invitation to enroll.

**Description of the course:** This is the first semester of the MATH340-341 sequence which gives a unified and enriched treatment of multivariable calculus, linear algebra and ordinary differential equations, with supplementary material from subjects such as differential geometry, Fourier series and calculus of variations.

*The class will be intensive.* This is a 4-credit course covering the content of about 6 credits of material in the regular class. Furthermore, we will cover it in greater depth.

Students completing MATH340-341 will have covered the material of MATH240 (Introduction to Linear Algebra), MATH241 (Calculus III), and MATH246 (Differential Equations), and may not also receive credit for MATH240, MATH241 or MATH246. Credit will be granted for only one of the following: MATH241 or MATH340.

#### **Texts:**

- S. J. Colley, *Vector Calculus*, Third Edition. Prentice Hall, 2006. ISBN: 0-13-185874-2.
- C. G. Cullen. *Matrices and Linear Transformations*. Second Edition. Dover, 1972. ISBN: 0-486-66328-0.

A solutions manual for the *Vector Calculus* book, containing solutions for about half of the odd-numbered problems, is available (check online): S. J. Colley, D H. Steinberg. *Student Solutions Manual. Vector Calculus, Third Edition*, Prentice Hall, ISBN 0-13-193627-1.

**Mathematical Software:** The mathematical software system MATLAB will be introduced so that it can be used occasionally for homework sets as a device to enhance (rather than replace) your understanding. Instructions on MATLAB will be given.

**Syllabus:** We will cover most of the *Vector Calculus* book and about half of the *Linear Algebra* book.

**Grading:**

Grades will be based on

Homework, Projects, Quizzes: 25 %

Midterm examination 1 (early October): 25%

Midterm examination 2 (approximately on Tuesday, November 20): 25%

Final Exam (Friday, December 14, 8-10): 25%

**Attendance:**

Of course, attendance is always expected, and students are responsible to know the oral and written announcements made in class.

There will not be make-up quizzes. Absence from an examination will be excused only in accordance with the campus policy; see <http://testudo.umd.edu/soc/atedasse.html>. The reasons for absence must be unavoidable, documented, and reported to me as early as possible.

Religious Observances: If you will be absent from class due to religious observances, then contact me at the beginning of the semester to discuss alternatives. You are responsible for making these arrangements at the beginning of the semester.

**Students with Disabilities:** If you have a documented disability and need academic accommodations, please contact me as soon as possible.

**Academic Integrity:** Students are responsible to inform themselves of the university's policies regarding the Code of Academic Integrity.

See <http://studenthonorcouncil.umd.edu/code.html>