Math 341 – Syllabus – Spring 2004

Instructor: Thomas J. Haines
　　　　Office: Room 4111, Mathematics Building
　　　　Phone: 405-5076
　　　　Email: tjh@math.umd.edu

Office Hours: Monday 2-3 pm, Wednesday 11-12 am, or by appointment.

Course: Multivariable Calculus, Linear Algebra, and Differential Equations II (Honors), MW 10:00-10:50 am, F 10:00 -11:50 am, in MTH B0425. Section 0101.

Main Texts: J. Hubbard and B. Hubbard, *Vector Calculus, Linear Algebra, and Differential Forms: A Unified Approach*, Second edition; Prentice-Hall (2002) ISBN 0130414085.
　　M. Braun, *Differential equations and their applications*, Fourth edition; Springer-Verlag (1993) ISBN 0387978941.
　　Calculus supplemental texts: M. Spivak, *Calculus on manifolds*, Addison-Wesley (1965), ISBN 0805390219.
　　L. Corwin and R. Szczarba, *Multivariable calculus*, Marcel Dekker, Inc., 1982; ISBN 0824769627.
　　Linear algebra supplemental text: C. Cullen, *Matrices and Linear Transformations*, Second Edition; Dover Publications (1990) ISBN 0486663280.

Calculator: You will be allowed to use a TI-83 (or TI-83 Plus) calculator for all work in this course, including all in-class examinations. More advanced calculators (such as those with advanced graphing or symbolic integration capabilities) will not be allowed for in-class exams. My feeling (at the moment) is that calculators will occasionally be useful, but should not be really necessary.

Outline: This course consists of two parts. In the first part, we will complete our study of multi-variable integration which we started last semester. The main topics in this part are the change of variable formula, integration of forms, some examples, and applications such as the "classical" theorems of Green, Gauss, and Stokes. This material is covered in Hubbard-Hubbard, 4.10, Chapters 5 and 6. We will also use some supplemental sources for some of this material.
　　The second part of the course is an introduction to ordinary differential equations. Essentially, we will cover the first three chapters of Braun's book, along will selected sections from chapters 4 and 5.

Homework: Homework problems will be assigned weekly on Fridays, and collected the following Friday. Exceptions may occur near the exam dates. Late homework will not be accepted unless there are extenuating circumstances (you will need to contact me and possibly provide documentation).

You are encouraged to work together on homework problems, but you must write up and turn in your own solutions. See the Honor Pledge link on the course web-site.

Your lowest three homework scores will be dropped in the calculation of your homework grade.

IMPORTANT: All assignments will be made on the course web-site. You are responsible for checking the course web-site regularly for those assignments and for other important announcements. See http://www.math.umd.edu/˜tjh.

Exams: Tentative dates for in-class exams:
        Exam I: Friday, February 27.
        Exam II: Friday, April 2.
        Exam III: Friday, April 30.

The date and time for the final exam will be announced later.

Grading: Your final grade will be calculated according to the following scheme:
        Exams I,II, and III: 20% each
        Homework: 10%
        Final Exam: 30%.

Other:
• Make-ups for in-class exams will only be given for *compelling* and *documented* reasons.
• It is your responsibility to contact me promptly if any legitimate circumstance (e.g., a religious holiday, a family emergency, etc.) presents a problem for you in connection to this course (e.g. a serious conflict with one of the scheduled exam dates).