Math 2720 **Multivariate Calculus** Spring 2011

Instructor: Steve Mackey **Class**: MTRF 2:00−2:50pm, Rood 3393

Office: 6602 Everett, 387-4539

Office Hours: M 3−4pm, TRF 12−1pm. You may also see me at other times by arrangement.

Text: Thomas Barr, *Vector Calculus*, Second Edition, 2001, Prentice-Hall.

Syllabus: We will cover the first five chapters of Barr, including the study of vectors and geometry in $\mathbb{R}^3$, linear algebra in $\mathbb{R}^n$, derivatives of multivariable functions and some applications, and multiple integration. If time permits we will conclude with path integrals and Green's theorem from chapter 6.

Prerequisite: Completion of Math 1230 or Math 1710 with a grade of C or better, or equivalent transfer or AP credit.

Homework: Problems will be assigned, but not collected. It is *essential* to do the assigned homework on a regular basis. Working together in study groups is highly recommended. Assignments using MAPLE will also be given from time to time.

Exams, Quizzes and Grading: There will be nine or ten quizzes (held roughly weekly), and three in-class midterm examinations. In addition, a comprehensive final exam will be held on Weds 27 Apr (12:30−2:30pm) during Finals Week. A *tentative* schedule for the in-class midterm exams is:

Exam 1: 4 Feb Exam 2: 15 Mar Exam 3: 8 Apr

Makeup exams will be permitted only in those cases when a student documents a genuine medical or personal emergency. The lowest quiz score will be dropped, and so no make-up quizzes will be given for any reason.

Quizzes	20%	MAPLE Assignments	5%
Exams (3@15 each)	45%	Final Exam	30%

Your grade will be determined by the scale:

A	92 – 100	B	80 – 85	C	68 – 74	D	56 – 62
BA	86 – 91	CB	75 – 79	DC	63 – 67	E	≤ 55

Some Important Dates:

Martin Luther King Day: Mon 17 Jan (no classes)
Spirit Day: Fri 25 Feb (no classes)
Spring Break: Mon 28 Feb − Sun 6 March
Last day to withdraw: Mon 21 March

Academic Integrity: You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate Catalog that pertain to Academic Integrity. These policies include cheating, fabrication, falsification and forgery, multiple

submission, plagiarism, complicity and computer misuse. [The policies can be found at `http://www.wmich.edu/catalog` under Academic Policies, Student Rights and Responsibilities.] If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with me if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test. Violations of the academic honesty policies can result in failing grades for the assignment and the course. Additional penalties can be imposed by the University.

Incompletes: Departmental rules will be followed regarding "I" (Incomplete) grades. An "I" grade can be assigned only when circumstances beyond the student's control prevent completion of a small segment of the course. Incompletes may not be granted under any circumstances when a student is doing unsatisfactory work; such students are advised to withdraw from the course.

Staying on Course

1. You cannot expect to learn everything in the classroom. You must be willing to put in two to three hours outside the classroom for each hour of class.
2. Do the homework exercises regularly. Maintain a separate notebook of solutions.
3. Watching your professor solve a problem is very, very different from being able to solve it yourself (especially on an exam). There is no substitute for practice.
4. Writing is important. Your solutions must contain complete sentences and reasoning, whether the problem asks for this explicitly or not. Writing sentences forces you to organize your ideas.
5. The instructor's job is primarily to provide a framework, with *some* of the particulars, and to serve as your guide in your quest for understanding. Lecture time is at a premium; do not expect everything to be covered in class. You will be responsible for studying all the topics in the syllabus.
6. READ THE TEXT. Reading technical material is difficult. *Expect to re-read; use the index; use the appendices; make your own notes.* Over the course of the semester you *will* learn to read better, it usually takes time. Start by setting modest, achievable goals (i.e., read half a section and do a few related problems).
7. Read material *before* it is presented in class. Always bring the textbook to class.
8. Talk to each other about mathematics. Discuss your ideas and your problems. Form study groups.
9. Come to office hours! Don't put off getting your questions answered.
10. Get enough sleep!