**MTH 254H: Honors Multivariable Calculus**

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MLC Hours: T 1:40-4, W 2:50-4. Note that the Honors room is separate from the rest of the MLC.

**Course Webpage**: www.math.msu.edu/~hendricks/MTH_254H.html Most course content can be found both here and on D2L.

**Location and Time**: MWF 11:30-12:20 in A224 Wells. Discussion section Th 10:20-11:40 in A322 Wells.

**Content**: This course is an introduction to calculus in multiple variables. We will discuss vectors in space, functions of several variables, partial differentiation, multiple integrals, line and surface integrals, and Green's and Stokes's Theorems.

**Textbook**: J. Marsden and A. Tromba, *Vector Calculus.* Sixth Edition.

**Prerequisites**: MTH 153H or MTH 133 or LB 119.

**Homework**: Homework will be assigned weekly and due at the beginning of Friday's lecture. There will be thirteen homeworks. (There will not be a homework due the week of Thanksgiving.) **No late homework will be accepted. Homework will not be accepted electronically.** However, your lowest two homework scores will be dropped when computing your grade.

Homework will predominantly be on material covered in lecture; occasionally, homework assignments will ask you to read a short section or example of new material, and do problems related to it.

Typically three homework problems will be graded carefully, and some points will be given for completeness of the rest of the assignment.

You are encouraged to work in groups on your homework – this is generally beneficial to your understanding and helps you learn how to communicate clearly about mathematics. However, you must write up all solutions yourself. Moreover, since crediting your collaborators is an important element of academic ethics, you should write down with whom you worked at the top of each assignment. You must also cite any sources you use other than the lecture or the textbook (other textbooks, a blog about vector calculus, etc.)

**Quizzes:** There will be two short quizzes at the beginning of discussion section on **Thursday, September 14** and **Thursday, October 26**. There will not be any make-up quizzes except in extreme and documented circumstances.

**Exams**: There will two eighty-minute midterms during discussion section on **Thursday, October 5** and **Thursday, November 16**. There will also be a final exam **Wednesday, December 13, 7:45-9:45 a.m.**

There will be not be any make-up exams except in extreme and documented circumstances. Note that department policy forbids early final exams for any reason.

**Grading**: Grades will be computed as follows:

- Homework: 20%
- Quizzes 1 and 2: 2.5% each
- Midterms 1 & 2: 20% each
- Final: 35%

A reasonable curve will be applied to the composite numerical scores. In past iterations of this class the average has typically been a 3.5.

**Schedule:** We will cover most of Marsden and Tromba, essentially linearly, with the addition of some extra background material on linear algebra. Precise reading for each week will be provided as the course goes on. You will get the most out of lecture if you do the reading *before* coming to class.