Math 5B, 2012 Summer Session A

Instructor: Rob Ackermann
Lecture: MTWR 8:00 - 9:10 in Phelps 1444
Office: South Hall 6431K (blue side)
Tentative Office Hours: M, T, R 9:10 - 10:00 and by appointment

e-mail: rackermann@math.ucsb.edu
Website: www.math.ucsb.edu/~rackrmnn/5BSessionA2012.html

Text: *Vector Calculus* by M. Lovric

Homework: Homework will be assigned through Webwork. I will provide further details during the first week of class and through e-mail to your u-mail account. The first homework assignment will be posted during the first week of class, if you cannot login by Friday, 6/29 please *contact me as soon as possible*.

I will also occasionally assign problems to be done on paper and handed in at lecture.

Class Participation and Quizzes: At the end of the quarter, the level of class participation will influence how grades are curved (if at all). This includes asking questions in class, coming to office hours, and attending lecture. Quizzes will be given occasionally, the purpose being mainly to determine what material you understand and what material you don't.

Exams: There will be a midterm and a final. The final will be comprehensive. Tentatively, the midterm is scheduled for Monday, July 16th and the final for Friday, August 3rd (last day of class).

Missed Work: If you are going to miss a midterm or the final, please contact me as soon as possible so that we can make other arrangements. Note that you must have a solid, documented (if possible) reason for missing the exam.

If you miss lecture, you are encouraged to come to office hours and ask questions about what you missed.

Grading:
    Webwork Homework: 30%
    Other Homework / Quizzes: 10%
    Midterm: 25%
    Final: 35%

A 90% overall will guarantee at least an A-, and an 80% will guarantee at least a B-, and a 70% a C-. The precise scale may be adjusted based upon class enthusiasm, ridiculously hard exams, earthquakes, tornados, etc.

Help! There is lots of free help available for math 5B. My office hours exist so that you can ask me questions outside of class, and if you have trouble making it to the regularly scheduled times I'm happy to schedule a different time to meet with you. There is also help available at **Mathlab, open M - R 11:00 - 4:00 and F 11:00 -3:00 in South Hall 1607**. Even if you don't have questions yet, you can go to Mathlab and work on your homework until you do.

Topics covered: Math 3B is an introduction to calculus of several variables and vector valued functions. Essentially, we will learn how the calculus you already know generalizes to higher dimensions. The material in this course is critical to applications in virtually every science, economics, and more math. I also hope that you develop your geometric/spacial intuition along the way.

Below is a list of topics we'll attempt to cover. Depending on the pace of the course, we may not have time to cover all of these.

1. Vector geometry
2. Vector valued functions of one variable
3. Functions of several variables
4. Partial derivatives, directional derivatives, and extrema
5. Double integrals
6. Path integrals
7. Green's Theorem
8. Integration over surfaces
9. (Classical) integration theorems
10. Triple Integrals