3B Syllabus: Spring 2011

Lecture: MW 2-3:15 in CHEM 1171
Text: Calculus by Stewart (Pretty much any calculus book will do)
Material to be covered: Chapters 5-8

Instructor: Ryan Ottman
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TA office hours: R: 11-12
Mathlab hours: TR: 12-1

Homework: Homework will be assigned through webwork(webwork.math.ucsb.edu). Working together on the homework is encouraged, but remember that the homework is your practice for the exams, so even if you work in groups, make sure you understand the problems well enough to do it on your own.
Purpose of homework: The reason I assign homework is so you will have a chance to practice problems and learn the material. This is your chance to take the ideas you learned in lecture that are still a bit fuzzy and work with them first hand to make them concrete. Each homework problem contains ideas that will potentially show up on an exam. I recommend that you write out each homework problem on paper in a similar manner to what you would write in the exam. Any time something comes up in a homework problem that you do not fully understand, you should ask someone to clarify, even if you were able to find the right answer, if there is a part you did not understand you should pursue it.

Quizzes: There will be quizzes in section.
There will be absolutely no make up quizzes
Purpose of the quizzes: The quizzes are your first chance to see if you really understand the material. Any time you don't get a perfect score on a quiz, you should find out what your mistake was. If you have a big misunderstanding or gap in knowledge, this is your chance to find that out before the exam (which is worth a much larger portion of your grade)

Exam Schedule (Tentative):
Midterm 1: April 18
Midterm 2: May 9
Final: Monday June 6 at 4:00 to 7:00
You must bring a picture ID to every exam.
There will be no make up exams.

Grades: Homework 10%, Quizzes 10%, Midterms 20% each, Final 40%
Calculators: No Calculators.
Math Lab: The Math Lab, located in South Hall 1607, is open M-F 12-5.
Adding to the Class: The math undergraduate advisors handle the waiting list, which is online at https://waitlist.ucsb.edu/
Any of the above is subject to change.

SOME MUSINGS ON THE LEARNING PROCESS

In a typical quarter, I have a few students who come to me shortly before the final saying they understand the material when I give lectures, but they have trouble on the exams. At that point it is often too late to help them in a very meaningful way, but it seems if I could have talked to them near the beginning of the quarter they could consider a few simple ideas over the entire quarter and be better prepared by the end. With this in mind, I include some of my ideas on different stages in the learning process.

The first level is simply understanding the question being asked. If you understand what the question is asking you to do, but you don't know how to solve it, you can at least think about the problem and formulate an idea of how to attempt to solve it. Often students will tell me "I just don't know how to start", this is ok and we can help you, but it can make the process quite difficult for us and frustrating for you. On the other hand, if you understand the question, you are equipped to at least try something, then if it doesn't work you can tell me "I tried this and it didn't work". In this case, it is much easier to find your gap in knowledge and help you find a solution.
Early on in the course, reaching this level of understanding typically means having a firm grasp of the prerequisite material, and as the class progresses it means understanding the topics we have already covered. Everyone has some gaps in their background, this is nothing to be ashamed of. The key is to identify when you don't understand something and fill in those gaps, even if it is not the main topic

of the current homework assignment. Often students will have such a gap (like trigonometry) that they keep avoiding and it haunts them for the entire course.

A middle level of understanding is when an idea makes sense when someone else is explaining it. This often happens after a combination of lecture and discussion, after hearing the ideas from the professor and seeing a few problems worked out in discussion, it feels like you completely understand the material. Often times, when you are in this state, you are very close to comprehension but there are a few details you have missed. It is easy to miss a detail or two when someone else is leading you through a problem.

A high level of understanding is when you can do a problem from start to finish all on your own. The only way to know if you are in this level or the previous one is to do problems. For each problem, you should try to do it without help from the book or a calculator, you should ask yourself "if this was a test problem, could I do it". Typically at the beginning of a homework set, you will say no to this most of the time, but by the end, you should be able to answer yes. If you get to the end of a homework set and you still can't answer yes to this question, you should find additional problems to practice until you are completely proficient. As crazy as this sounds, this is the best way I can think of to ensure understanding of the material, and therefore a good grade in the class.

What should you do if you feel you are falling behind? Most people in this situation do the wrong thing, which is nothing at all. There is plenty of help out there for you, but you must seek it out. Make sure you are attending lecture and discussion, come to office hours of the professor and teaching assistant, mathlab, CLAS, private tutoring. All of these are good options, but you must be proactive about seeking help.