

**CALCULUS AND ANALYTIC GEOMETRY FOR SCIENCE AND ENGINEERING
(MATH 20C)
SPRING 2010**

MWF 12:00 - 12:50 PEPPER CANYON HALL 109

1. IMPORTANT INFORMATION

Instructor: Stephen J. Young
Office: AP&M5210
Office Hours: MWF 8:30 am – 9:30 am, or by appointment.
E-mail: s7young@math.ucsd.edu (**Please** include “Math20C” in the subject)
Office Phone: (760)-534-3983
Course Webpage www.math.ucsd.edu/~s7young/teaching/math20C/spring10/
Textbook *Calculus: Early Transcendentals, 1st edition*

2. GRADING BREAKDOWN

Final grades in this course will be determined according to most beneficial of the two following rubrics, with the proviso that in order to pass the class you must pass the final exam. At the judgement of the instructor and on an individual basis, course grades may be higher than the numerical calculation would yield.

- (10%) **Homework** Homework will generally be due each Thursday of the quarter, covering material up to the Monday. Homework should be turned in to the homework drop box on the 6th floor of AP&M by 5:00 pm the day it is due.
- (40%) **Exams** There will be two exams in this course, tentatively scheduled for Friday April 23 and Friday May 28. Each exam is worth 20% of your final grade. Alternatively, the lesser of the two grades may be replaced with your grade on the final exam if this improves your overall grade.
- (50%) **Final Exam** The final exam is scheduled June 9, 11:30 am – 2:29 pm. In order to pass the class, you **must** take and pass the final.

3. GRADING SYSTEM

All exam and homework problems will be graded on the following holistic five-point scale:

- 5** Well written and complete work. (\sim A+)
- 4** Good work with minor errors or small gaps in explanation. (\sim A)
- 3** Good work with more serious errors or insufficiently clear explanation. (\sim B)
- 2** Significant, but incomplete, explanation that will clearly lead to the correct answer. (\sim C)
- 1** Some ideas that might lead to the correct answer are presented. (\sim D)
- 0** No work, work that will not lead to a correct result, or illegible. (\sim F)

GRADE DISTRIBUTION

A+	A	A-	B+	B	B-	C+	C	C-	D	F
95	85	80	75	65	60	55	45	40	30	0

4. COURSE POLICIES

- ◆ Unless otherwise specified in writing, all tests are closed book, closed notes, and without the aid of any computation devices such as calculators, abacuses, sliderules, cell phones, PDAs, etc.
- ◆ Please silence all cell phones and noise making devices during class. Note that some models of cell phone when put on vibrate make a significant amount of noise.
- ◆ All homework assignments are to be turned in to the appropriate drop box by 5:00 pm on the day it is due. Late work *will not* be accepted. You may work together on your homework assignments, but each person must turn in their own work. In order to ensure that your homework is graded, please use clean paper not torn from a spiral notebook, with your name, section, and ID number on the front page. Write your solutions neatly, legibly, and labelled in numerical order. If multiple pages are necessary be

sure to staple the pages together. At the sole discretion of the grader, homework not following these guidelines may not be graded and will receive a 0.

- ◆ If you believe an exam has been graded incorrectly do not mark the quiz or exam in any way. Submit in writing to the TA, along with your exam or quiz, a short statement of why you think a *particular* problem, or set of problems was graded incorrectly. Regrade requests will not be accepted later than the end of the class period after they are returned. I reserve the right to photocopy any or all of your exams and quizzes in order to prevent regrade abuse.
- ◆ In order to receive full credit on exams and homework you must show all work in a clear and coherent manner. In particular, correct answers not fully supported by explanations using complete sentences, where appropriate, will not receive full credit. It is your responsibility to present your solutions in an easily understood manner.
- ◆ If you need help outside of normal office hours, please feel free to stop by my office. I may not be able to help at that moment, but we will at least be able to arrange another time to meet.
- ◆ Please keep all your exams and homeworks; if you believe there has been an error in the recording of your grades they are the only way to validate your claim. Also, grades will be placed on WebCT, so please periodically check the grades posted there so we can resolve any issues quickly.

5. CLASS SCHEDULE

Date	Sections Covered	Notes
Mar. 29	12.1 Vectors in the Plane	
Mar. 31	12.2: Vectors in Three Dimensions	
April 2	12.3: The Dot Product	
April 5	12.4: The Cross Product	Homework 1: Due April 8
April 7	12.5: Planes in Three-Space	
April 9	11.1, 13.1: Parametric Equations, Vector Values Functions	
April 12	13.2: Calculus of Vector Valued Functions	Homework 2: Due April 15
April 14	11.2, 13.3: Arclength and Speed	
April 16	13.5: Motion in three-space	
April 19	14.1: Functions of two or more variables	
April 21	14.2: Limits and Continuity in Several Variables	Homework 3: Due April 22
April 23	Exam 1	
April 26	14.3: Partial Derivatives	
April 28	14.4: Differentiability, Linear Approximation, and Tangent Planes	Homework 4: Due April 29
April 30	14.5: Gradient and Directional Derivatives	
May 3	14.6: Chain Rule	
May 5	14.7: Optimization in several variables	Homework 5: Due May 6
May 7	14.8: Lagrange Multipliers	
May 10	15.1: Integration in Several Variables	
May 12	15.1: Integration in Several Variables (cont.)	Homework 6: Due May 13
May 14	15.2: Double Integrals over More General Regions	
May 17	15.3: Triple Integrals	
May 19	12.7: Cylindrical and Spherical Coordinates	Homework 7: Due May 20
May 21	15.4: Integration in Polar, Cylindrical, and Spherical Coordinates	
May 24	15.4: Integration in Polar, Cylindrical, and Spherical Coordinates (cont.)	
May 26	15.4: Integration in Polar, Cylindrical, and Spherical Coordinates (cont.)	Homework 8: Due May 27
May 28	Exam 2	
May 31	No Class (Memorial Day)	
June 2	Unscheduled	
June 4	Unscheduled	
June 9	Final Exam 11:30 am – 2:29 pm	