

## MA203 CALCULUS III - FALL 2009

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**Text:** *Multivariable Calculus, Concepts and Contexts, 3rd Edition, James Stewart, published by Wadsworth Group (2005).*

**Prerequisite:** Calculus II. (Recommended prerequisite: Calculus II with a grade of at least C.)

**Help:** Help is available from me during office hours or by appointment and also from the tutors in the math lab. Although I have a busy schedule and students have busy schedules, if you need help and cannot make my office hours, I will try to find a mutually convenient meeting time, so do not hesitate to ask.

**Objectives:** The objective of Calculus III is to introduce the concepts and techniques of calculus of two or more variables. The concepts of multi-variable calculus naturally generalize those of single-variable calculus learned in Calculus I and II, so it is highly recommended that students review Calculus I and II as we proceed through Calculus III.

The approach of the text and the course is to emphasize understanding and applications and to de-emphasize routine manipulation. This text follows the approach of the text Arcadia used for Calculus I and II and students will find it readable; students are expected to read it carefully. Because of the emphasis on understanding and the fast pace of the course, **the average student should expect to spend 8-10 hours each week outside of the class working problems and studying the materials.** The student should also be aware that the topics grow increasingly more difficult as the semester progresses

Each student may borrow a TI Voyage 200 calculator from the Department of Mathematics and Computer Science or may use his/her own TI-92 or 89 or Voyage 200. We will use the calculators as tools, freeing us to concentrate on problem-solving rather than on repetitive manipulative drill.

**Grading:** There will be three one-hour exams, a cumulative final exam, and a weekly 10-15 minute quiz. Questions on the quizzes will be similar to the procedural problems assigned for homework and may also include definitions and statements (but not proofs) of theorems. Students who regularly do homework should find the quizzes relatively easy. The lowest quiz (but not the lowest exam) will be dropped. If you miss a quiz (with or without an acceptable excuse) that quiz is the one which will be dropped. If you miss a second quiz and have an acceptable excuse, then your quiz grade will be calculated as the average of those you take. You may not make-up quizzes. Make-ups of hour exams are at the discretion of the instructor and require prior approval and a written, acceptable medical excuse.

Grades will be based on 600 points.

Quizzes.....	100 points
3 one-hour exams ..	300 points
<u>Final exam .....</u>	<u>200 points</u>
Total possible...	600 points

Points (not letter grades) from quizzes and exams (including the final) will be totaled and then a letter grade will be assigned. A letter grade will also be assigned for the final exam. Your final course grade will be the higher of the two letter grades.

**Honesty:** Students are expected to follow principles of academic honesty. The first violation these principles will result in a zero on that quiz or exam. The second violation will result in an F for the course.

**Student-Athletes:** Student-Athletes should identify themselves the first class and then present a team schedule. Absences for games/meets (but not practices) will be treated with exactly the same policies as other excused absences.

**Jewish Holiday:** There will be no class on Monday, September 28<sup>th</sup>.

## Calculus III Assignments Fall 2009

**Text:** *Multivariable Calculus, Concepts and Contexts*, 3ed Edition, James Stewart, 2005.  
**Each assignment is due the next class after the material has been covered.**

<b>Introduction</b>	<b>Contour map problem</b>	
<b>Chapter 9</b>	<b>Vectors &amp; Geometry of Space</b>	<b>8 classes</b>
9.1	1,3,8,10,13,16,19,26	
9.2	1,5,9,18,19,20,24,29,37	
9.3	1,9,11,12,17a,25,26,33,35,38, 42	
9.4	1,14,26,29	
9.5	1,2,7,10,22,25,31,35,41,49	
<b>Chapter 10</b>	<b>Vector Functions</b>	<b>3 classes</b>
10.1	1,3,31,38	
10.2	3,5,9,15,19 + others tba	
10.3	2,4	
10.4	9,20,23,24,25,27	
<b>Chapter 11</b>	<b>Partial Derivatives</b>	<b>10 classes</b>
9.6	4,7,10,15,21,23,27	
11.1	2,3,7,9,10,15,31-36	
11.2	5,7, 10,12,13,16,19,25,27	
11.3	3ab,6ab,8,13,16,29,41,62ab,70,77,80abc	
11.4	1,4,15,18,26,29,33	
11.5	5,10,11,13,17,30,31,32,37,39,40,41	
11.6	1,11,12,21,28,30,34,48,51	
11.7	2,3,10,11,36,44	
<b>Chapter 12</b>	<b>Multiple Integrals</b>	<b>10 classes</b>
12.1	1a,6,9,11,12	
12.2	3,9,19,23,28a,31	
12.3	1,8,17,19,33,35,39, 51(set-up only).	
Appendix H:	To be assigned	
12.4	5,6,15,17,25,28,31,32	
12.5	3,7,11,14,15	
12.6	omit	
12.7	8,9,17,18,19,27,28, 31 (1 other way), 36	
9.7	11 – 14,16,18,22	
12.8	8,9,27,28,31,32,33,34	
<b>Chapter 13</b>	<b>Vector Calculus</b>	<b>4 classes</b>
13.1	1,2,4,11-14,21	
13.2	15,17,18,26a,34	
13.3	3,5,6,11,13,20	
13.4	To be assigned (as time allows)	
<b>Exams</b>		<b>3 classes</b>
<b>Reviews</b>		<b>3 classes</b>
<b>Total</b>		<b>41 classes</b>