Mathematics 211 SYLLABUS
Fall, 2007

Instructor: Fang Chen   Office Location: Pierce 121
Phone: 770-784-4639   Email: fchen2@emory.edu
Office Hour: To be announced weekly on the class conference

Course Content: Mathematics 211 is the third semester of calculus. It revisits and adapts the concepts from first-year calculus in the setting of three-dimensional space. The main topics are geometry in space; vectors; functions of more than one variable including vector fields; the limits, differentiation, and integration of such functions; and applications.

Course Objectives: At the end of the course, a student should be able to do the following: to sketch three-dimensional graphs, to understand how the calculus of single-variable functions generalizes to multivariable functions, to evaluate limits of multivariable functions and vector fields, to differentiate multivariable functions and vector fields, to integrate multivariable functions and vector fields, to discuss the roles of these processes of multivariable calculus in solving problems, to understand better the material of first-year calculus.

Textbook: Susan Jane Colley, *Vector Calculus, Third Edition*

Attendance: Students are expected to attend all classes and are responsible for all material covered in class as well as any changes made in the schedule regarding homework and tests. Class attendance and consistent preparation for class will determine the success or failure the student realizes in this course.

Learnlink: There is a class conference on Learnlink, **Math211Fall2007**. Outlines of each class will be posted there. This includes topics covered that day, homework assignments, suggestions on studying the textbook, topics to preview before next lecture and other announcements. Students may ask questions and make requests of a general nature on this conference. Individual concerns should be sent directly to your professor. Students should place this conference on their desktop and check it frequently.

Quizzes and Preparing for Lectures: Short pop-up quizzes might be given at the beginning of classes. Usually it is a simple question on the material that will be covered that day. Students are required to preview the topics before the lectures. The outlines posted on the class conference will announce the topics for next lecture and provide a guide on how to approach the material. The quizzes are designed to check if students have read the material before the lecture and understood basic definitions and concepts. There will be roughly 25 such quizzes at 2 points each.

Homework: Homework will be assigned on a regular basis and will be collected and graded.
        It is the instructor's opinion that this course is about as hard as first year calculus with this important qualification: If you enrolled in a college-level calculus course with no previous calculus experience, then this course will require about as much work. If you "coasted" through

calculus, this course will be different. Almost no one will have any familiarity with the new concepts in this course, except in as much as they resemble those from single-variable calculus.

A routine exercise in multivariable calculus tends to take more time than one in single-variable calculus. Therefore it will not be possible to practice with the same level of repetition as in Math 111/112. Instead, the student must probe each exercise deeply. Take time to reflect on each problem as you complete it.

Tests: There are three out-of-class, self-scheduled, closed-book, timed tests, each worth 100 points.

Problem Sets: There are two midterm problems sets and a final problem set. The problems sets are take-home and open-book. You are not allowed to use any other books or consult another person. At least a week will be given to work on each problem set. During that time the student is expected to keep up with the regular class work. The final problem set takes the place of a final exam. The problem sets are cumulative, increase in value, and are worth 100, 150, and 250 points respectively.

Written Work: Thoughts are expressed by sentences. <u>Your written work must be in complete sentences.</u> Use mathematical symbols wherever appropriate; do not use a lot of words. Pay attention to how the problems are worked out in the textbook. Your work should be neat and legible. It is common practice to rewrite solutions once they are found.

Calculators: In general, calculators will not be allowed unless the opposite is announced.

Grading:

3 tests @ 100 points each	300
Problem Sets (100, 150, 250)	500
Homework	100
Pop-up Quizzes (25x2)	50
Total points	950

A rough guide to assign letter grades:
A: roughly more than 90 %; B: 80 – 89 %; C: 70 – 79 %; D: 60 – 69%; F: below 60 %

Grades of A-, B+, B-, C+, C-, D+ may be assigned.

HONOR CODE: THE HONOR CODE OF OXFORD COLLEGE APPLIES TO ALL WORK SUBMITTED FOR CREDIT. ALL SUCH WORK WILL BE PLEDGED TO BE YOURS AND YOURS ALONE. THIS IS THE CASE WHEN YOU PLACE YOUR NAME ON WORK SUBMITTED.