

**MAT 397 - CALCULUS III**  
**SPRING 2006**  
**(Tuesday recitations)**

**Course Description:** MAT 397 is the third course in a three-semester sequence in calculus. This sequence is designed for Mathematics, Science and Engineering majors and for those students in other majors who intend to take advanced courses in mathematics. It covers the concepts of vectors, vector-valued functions, functions of several variables, partial derivatives and multiple integration.

**Text:** *Calculus: Early Transcendentals*, 5th Edition, by James Stewart, Thomson Brooks/Cole, 2003. (The material we will cover appears in Chapters 12 through 15.)

**Background for Course:** The formal prerequisite for MAT 397 is completion of MAT 296 (Calculus II), or its equivalent, with a grade of C- or better. Experience, however, shows that students who earned a grade of C or less in MAT 296 are at great risk in MAT 397. If you are in the latter group, be sure to review needed background material *as soon as it is needed and to keep up with the homework*.

**Calculators:** The TI-83+ is the recommended graphics calculator for this course. Students who already own and know how to use another equivalent calculator are free to use it. Calculators may or may not be allowed on exams and quizzes but **symbolic calculators (such as the TI-89 or the TI-92) may never be used**. On exams and quizzes the work justifying your answers must be presented, not merely answers themselves .

**Course Format:** The course meets four times per week. Your primary instructor will meet with the class for three of these periods while your recitation instructor will meet with you for the remaining session. New material will be introduced in lecture by your primary instructor. Your recitation instructor will answer questions on the course material and the assigned homework problems. Quizzes and some mid-term tests will be given in the recitation section. All sections of MAT 397 will have a common second mid-term test and a common final exam. **The second mid-term will be given on Monday, March 6, 2006 at 7:00 PM.** The exact location of your test will be announced later.

**Class Attendance and Participation:** You are expected to attend and participate in class. If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements concerning homework, quizzes or tests that were made during the class.

**Homework:** Assignments for the entire semester are listed below. **Each day's assignment should be completed before the next class meeting.** Some variations from the list of homework exercises may be announced in class. Your instructor may elect to grade some homework assignments and to use these in determining your final grade. It is *essential* to do all the homework in a timely fashion!

**Help:** Your instructors will be available regularly during their office hours. You can also seek help at the Calculus Help Center in the Reading Room of Carnegie Hall. The Help Center hours are posted by 215 Carnegie or you can obtain a copy of the schedule in the Math Department Office.

**Quizzes:** Some sections may have periodic quizzes. Generally, quizzes will be given in the recitation sections. You should consult your instructor's addendum to this syllabus for further details on quizzes and quiz policies and in particular for his/her policies on make-up quizzes.

**Mid- Term Examinations:** There will be three examinations during the semester. Two of these will be given in the recitation meeting the day after the review listed below. All sections of MAT 397 will have a common second mid-term test. It will be given on Monday, March 6, 2006 at 7:00 PM. The exact location of your test will be announced later.

There will be **NO MAKE-UP MID-TERM EXAMS**. Your instructor will announce his/her policy on missed mid-term exams. Many instructors adhere to the following standard arrangement for handling a missed mid-term exam: count the missing exam as a zero unless you present a valid, written excuse and with an acceptable written excuse and use your score on the relevant portion of the final exam to replace the missed exam. Since not all instructors will follow this practice, you should consult your instructor's addendum to this syllabus to find out his/her policy.

**Final Examination:** The final examination is comprehensive and covers the entire course. It will be given in a two-hour time block between 8:00 AM to 2:30 PM on Monday, May 8, 2006. The exact time and location will be announced in class near the end of the semester. Students are obliged to take the final examination during the appointed examination block and, in the absence of a conflict, at the scheduled time. **You should plan not to leave campus for the semester until after 2:30pm on May 8.** The final exam will not be given at any other time.

**Grades:** Semester grades will be determined using the following weightings:

Final exam	25%
Each mid-term test	20%
Quizzes and/or homework,	15%

**Course Supervisor:** Professor Douglas Anderson, 304 B Carnegie. His contact information is: telephone 443-1491; email danderso@syr.edu. If you have a problem, you should seek to resolve it first with your recitation instructor or section instructor. Problems not satisfactorily resolved with your section instructor should be brought to the attention of the course supervisor without delay.

**Students with disabilities:** Students who may need special accommodations because of a certified disability should see the instructor to discuss appropriate arrangements and/or accommodations and should check with the instructor at least two days before each test to confirm that the arrangements and/or accommodations are in place. This is the student's

responsibility. Special arrangements should be made as early in the semester as possible as arrangements made later in the semester cannot be made retroactive to cover earlier work.

### **How to Succeed:**

- Attend class! You can't learn mathematics if you don't come to class.
- Do all the assigned homework *before* the next class meeting! It is absolutely essential that you understand how to solve the assigned problems. Quiz and exam questions will be similar to these problems. It is important to be able to use the skills and techniques presented in the course and not simply to be able to solve a specific set of problems.
- Ask questions when you get confused or stuck! Ask questions in lecture, in recitation and at the clinic about anything that is not completely clear. Don't hesitate to bring questions to your instructors during office hours.
- Learning mathematics takes time and effort! Every day, read and study the sections in the textbook covered in the lecture. Read carefully and work through all the examples in complete detail. It can be helpful to try to work through an example on your own before reading the solution.
- Stay caught up! Calculus concepts build on each other cumulatively and you need to stay on top of the material at every stage. If you are having difficulty, don't expect that the problem will take care of itself and disappear later. Contact your course instructor or your recitation instructor immediately and discuss the problem!
- Form a study group! Many students benefit from a study group to work through challenging problems and to review for exams. You should attempt the problems ahead of time by yourself and then work through any difficulties with your study partners. Explaining your reasoning to another student can help to clarify your own understanding.
- Be persistent and patient! Don't get discouraged if you find some of the material very difficult. If you follow the above suggestions, your experience in this course will be a rewarding one.