MAT 397 – Calculus III
Summer Session I 2013

Instructor: Patrick Neary
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Office Hours: W&Th 2:30-3:30pm and by appointment
Course Meetings: MTWTh 12-2:25pm, AG 203

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. This course covers the concepts of analytic geometry and vectors, functions of more than one variable, multiple integrals, partial differentiation, and physical applications.

Prerequisites: A grade of C- or better in MAT 296 is required to take MAT 397. Students who earned a C or less in MAT 296 are unlikely to be successful in MAT 397.

Liberal Arts Core Information: Completing a calculus course numbered 284 or higher with a grade of C or better satisfies the Quantitative Skills requirement of the Liberal Arts Core in the College of Arts and Sciences. Calculus courses numbered 285 or higher may simultaneously be used to partially satisfy the Natural Sciences and Mathematics divisional requirement.

Text: Calculus, Early Transcendentals (7^{th} Ed), James Stewart. ISBN: 978-0-538-49790-9

Required Supplement: This course will use the WebAssign online homework system (http://webassign.net) for all homework. Please note that WebAssign assesses a charge for this service. There is an ebook version of the textbook available through WebAssign. You are welcome to use the ebook version instead of purchasing a physical copy of the book.

Calculator Policy: A TI-84 or TI-83 is recommended. On exams where calculator use is permitted, any graphing calculator may be used, but calculators with a symbolic manipulation capability, such as the TI-89 or TI-92, are forbidden. All electronic devices other than the calculator should be turned off and put away during class. Calculators on cell phones are not to be used on tests.

Course Supervisor Statement: Please inform your instructor of any problems that you have with this course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor without delay. The course supervisor is Prof Andrew Vogel (office: 229F Physics, phone: 315-443-1584, email: alvogel@syr.edu).

Homework: To learn the material in any mathematics class, it is essential to do all the homework assignments. Homework will be assigned at regular intervals throughout the course. All homework will be completed through the WebAssign system. It is the student's responsibility to log in to WebAssign regularly to check for new homework assignments. To register for WebAssign, go to https://www.webassign.net/v4cgi/selfenroll/classkey.html and use syr 2231 9668 as the class key. Students are free to work together to understand the homework questions, but should come up with solutions and final answers on their own.

Grading Policy: The required work for this course includes regular homework assignments, midterm exams, and a final exam. These pieces will be weighted as follows.

Homework	15%
Midterm Exams	20% each (3 exams)
Final Exam	25%

Your course grade will be computed from the weighted average as follows.

93-100	A	77-79	C+
90-20	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	65-69	D
80-82	B-	0-64	F

Tests and Make-up Policy: There will be three examinations during the course. They will be given on the days listed below:

Exam 1 – Thurs May 30 – Ch 12-13
Exam 2 – Mon June 10 – Ch 14
Exam 3 – Tues June 18 – 15.1-15.6

There will be NO MAKE-UP EXAMS. A missed examination counts as a zero unless you present a valid written excuse from a physician or the Dean's office. With the written excuse, you may use your score on the relevant portion of the final exam to replace the missed exam. The instructor reserves the right to refuse any excuse for any reason.

Final Exam Policy: The final exam covers the entire course. It is a two hour exam, and will be given on June 28th, 12:00pm-2:00pm. Your instructor will state where the final exam will be held. **Do not make plans to leave campus before 2:00pm on Friday June 28th.**

Attendance Policy: You are expected to attend and participate in class. Missing class is the most common reason for poor performance in the course. 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 made in class.

Course Format: This course will meet for two hours and 25 minutes four days a week for six weeks. Each meeting will primarily consist of lecture, with the last half hour devoted to answering questions and doing additional examples in the style of a recitation section. There will be a ten minute break each day, roughly in the middle of the time period.

Getting Help: Your instructor will be holding regular office hours and will make appointments with students having class conflicts with their scheduled office hours. In addition, the Mathematics Department offers regular math clinics. These will be set up by the second day of classes and will be posted outside the math office.

Cell Phones: All electronic devices other than the calculator should be turned off and put away during class. Calculators on cell phones are not to be used on tests or quizzes.

Blackboard and Email: Your grades will be posted regularly to this course's Blackboard page. Please consult Blackboard (http://blackboard.syr.edu) for grade and general course information. The course instructor may send important course information via email. It is the student's responsibility to check for important email on a regular basis. Due to FERPA restrictions, grades cannot be sent via email.

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), http://disabilityservices.syr.edu, located in Room 303 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first test.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see http://academicintegrity.syr.edu.

Learning Outcomes:

- Students will be able to use and understand the usage of mathematical notation
- Students will be able to select an appropriate mathematical model for a given real world problem
- Students will be able to do hand calculations accurately and appropriately
- Students will be able to do calculations with the aid of appropriate hardware and/or software
- Students will understand the nature and role of deductive reasoning in mathematics
- Students will be able to follow proofs and other mathematical discourse
- Students will be able to write simple proofs in the major proof formats (direct, indirect, inductive), and, more generally, to engage in mathematical discourse
- Students will be able to apprehend and enunciate the limitations of conclusions drawn from mathematical models

How to succeed: Here are a few basic suggestions for how to succeed in this course.

1. It is absolutely essential that you understand how to solve the assigned homework problems and, more importantly, how and why the skills and techniques presented in the course are used in solving the assign problems. Quiz and exam questions will be similar to these problems.
2. Ask questions in lecture, recitation and/or at the clinic about anything that is not completely clear. Don't hesitate to bring questions to your instructors during office hours.
3. Every day, read and study the sections in the textbook covered in the lecture. Learning mathematics takes time! 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.

4. Stay caught up. Mathematical 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!
5. 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.
6. You should expect to work hard. Don't get discouraged if you find some of the material very difficult. Be persistent and patient! If you follow the above suggestions, your experience in this course will be a rewarding one.

Calendar: The following is a rough calendar of which sections will be covered on which days.

Date	**Sections**	**Date**	**Sections**	**Date**	**Sections**
5/20	12.1, 12.2	6/4	14.3, 14.4	6/18	**Exam 3**
5/21	12.2 - 12.4	6/5	14.5, 14.6	6/19	15.7, 15.8
5/22	12.4, 12.5	6/6	14.7, 14.8	6/20	15.9, 15.10
5/23	12.6, 13.1	6/10	**Exam 2**	6/24	16.1, 16.2
5/28	13.2, 13.3	6/11	15.1, 15.2	6/25	16.2, 16.3
5/29	13.3, 13.4	6/12	15.3	6/26	16.4
5/30	**Exam 1**	6/13	15.4, 15.5	6/27	Review
6/3	14.1, 14.2	6/17	15.5, 15.6	6/28	**Final Exam**