

MAT 296 — Calculus II
Spring 2012
Information for all sections

Course Description: MAT 296 is the second course in a three-semester sequence in calculus. This sequence is designed for students who intend to take more advanced courses in mathematics. This course covers techniques of integration, improper integrals, polar coordinates, sequences and series (including power series, Taylor and Maclaurin series).

Learning Goals: The broad learning goals for this course are for you to:

- ✓ have a basic knowledge and understanding of the analytic and geometric concepts taught, and some of their classical applications to other sciences such as physics;
- ✓ understand the nature and role of deductive reasoning in mathematics;
- ✓ have the ability to use and understand the usage of mathematical notation;
- ✓ have the ability to do hand calculations accurately and appropriately; and
- ✓ have the ability to follow proofs and other mathematical discourse.

Background for Course: Completing MAT 295 (Calculus I) with a grade of C– or better is a prerequisite for MAT 296 (Calculus II). **If you have not satisfied this prerequisite, you must drop MAT 296 and register for MAT 295.** Students who earned a C or C– in MAT 295 are historically at great risk in MAT 296. For these students it is essential to review material from the earlier course, especially as it comes up again. It is also vital not to fall behind with the current material.

Textbook: *Calculus: Early Transcendentals*, 7th ed., by James Stewart. (The material we will cover appears in Chapters 6 through 11.)

Online Homework System: Most of the assigned homework problems will be done using the online homework system WebAssign. To use this system, you are required to purchase an access code. You may do so either at the campus bookstore or online at www.webassign.net. You should access this system as soon as possible and begin your first assignment.

Calculators: A calculator is not required for this course. **In particular, no calculators will be allowed on the Final Exam. Use or availability of any calculator or other electronic device at the Final Exam will be a violation of the Academic Integrity Policy.** Your instructor may permit some calculators on quizzes and midterm exams. Under no circumstances will calculators capable of symbolic integration be allowed.

On exams and quizzes complete solutions, and not merely answers, must be presented to receive credit. For example a numerical computation of an integral by calculator is not acceptable.

Course Format: The course format is two or three lectures (depending on your section) and a recitation each week. Your primary instructor will introduce new material in lecture on MWF or TuTh. Your recitation instructor will answer questions on the course material and the assigned homework problems. A quiz will be given in most recitation meetings. Exams and quizzes will be given during recitation.

Class Attendance and Participation: 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.

Expected Work and Grading: The required work for this course includes daily homework assignments, midterm exams, and a final exam. These pieces will be weighted as follows in determining your semester grade. Your instructor may adjust these weights.

Quizzes and Homework	15%
Midterm Exams	3 @ 20% each
Final Exam	25%

Your course grade will be computed as follows.

93-100	A	77-79	C+
90-92	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	65-69	D
80-82	B-	0-64	F

Homework: To learn the material in a mathematics class, it is essential to do all the homework assignments. Most of the problems will be done using WebAssign. Your instructor may also assign some problems to be done with paper and pencil and handed in. These written homework assignments, in addition to WebAssign, are listed below. Some variations from or additions to the list may be announced in class. Completing all the homework problems is essential to be prepared for quizzes and exams.

Quizzes: There will be weekly quizzes except in the weeks you have an exam. They will be given in your recitation section and will have 2 or 3 problems similar to the homework problems. **No makeup quizzes will be given.** Your instructor may elect to drop one or more quiz grades in computing your quiz average for the semester.

Midterm Exams: Three midterm exams will be given during the semester. They will be given in your recitation at times announced by your instructor. Your instructor will also announce the exact material covered.

There will be **no makeup exams.** A missed midterm exam counts as a zero unless you present a valid excuse from a physician or the Dean's office. With the written excuse, you may use your score from the relevant portion of the final exam to replace the missing midterm exam score.

Final Examination: The final examination covers the entire course. It will be given during a two-hour block on

Monday, May 7, sometime between 8:00 AM and 2:30 PM.

The exact time and location will be announced later in the semester. **Do not make arrangements to leave campus before 2:30 PM on Monday, May 7.** The final will not be given at any other time.

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 Hall or you can obtain a copy of the schedule in the Math Department Office.

Course Supervisor: Professor Graham Leuschke, 206C Carnegie. Telephone 443-1469. E-mail gjleusch@math.syr.edu. Please inform your instructor first of any problems you have. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor without delay.

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>.

Religious Observances Policy: Syracuse University's religious observances policy, found at http://supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class.

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 309 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.

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.

Schedule of Topics

Subject to change as announced by instructor

Week 1	6.1, 6.2		Week 9	11.5, 11.6, Exam II
Week 2	6.3, 6.4		Week 10	11.6, 11.7
Week 3	7.1, 7.2		Week 11	11.8, 11.9
Week 4	7.3, 7.4		Week 12	11.9, 11.10
Week 5	7.5, 7.8, Exam I		Week 13	10.3, Exam III
Week 6	8.1, 8.2		Week 14	10.4, catch up
Week 7	11.1, 11.2, 11.3		Week 15	review
Week 8	11.3, 11.4			

Spring Break falls between Week 8 and Week 9. Note that sections 7.5 and 11.7 summarize and review the material of the preceding sections.

Additional Homework Problems

Your instructor may assign these to be handed in

6.1 #46, 50, 52a

6.2 #40, 42, 48

6.5 #14

7.1 #62, 67, 70a

7.2 #62, 64

7.3 #38, 40, 44

7.4 #64

7.8 #58

8.2 #25

11.2 #58, 60, 64, 78, 84

11.4 #42