

MAT296 — Calculus II **Summer 2016**

Course Description: MAT296 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. Students who have scored a 4 or 5 on the Advanced Placement Calculus BC exam cannot receive both AP credit and credit for MAT 296. Such students should register for MAT 397 Calculus III.

Textbook: *Essential Calculus: Early Transcendentals, 2nd ed.*, by James Stewart.

Instructor: Dr. G. C. Verchota, Professor of Mathematics, 443-1579, gverchot@syr.edu.

Class Time and Location: MTWTh 12:00-2:25 pm, HL 115

Office Hours: Carnegie 316C

- M: 8-9:30
- T: 8:30-10:00
- At other times by appointment

Other Resources: Your textbook comes with access to an online resource at http://www.stewartcalculus.com/media/13_home.php. This website has some interactive visuals to accompany the topics in your textbook. It also has “homework hints” for the problems in your textbook that are marked in blue. Other interactive visuals can be found by clicking the TEC icon in the pages of your ebook.

Calculators: A calculator is not required for this course. **No calculators will be allowed on any midterm exams or on the Final exam in this course. Using or having available any calculator or other electronic device during any midterm exam or during the Final exam is a violation of the Academic Integrity Policy.**

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, quizzes, two midterm exams, and a final exam. These pieces will be weighed as follows in determining your semester grade:

- **Homework and quizzes – 25%**
- **Each midterm exam – 25%**
- **Final Exam – 25%**

Homework: To learn the material in a mathematics class, it is essential to do all the homework assignments. Completing all the homework problems is essential to be prepared for quizzes and exams.

Quizzes: There will be daily quizzes. These quizzes will have 2 or 3 problems similar to the homework problems. **No makeup quizzes will be given.**

Midterm Exams: Two midterm exams of one hour each will be given during the semester. **No makeup exams will be given.** 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.

Exam 1: Thursday June 2

Exam 2: Thursday June 16

Final Examination: The final exam will be given on

Thursday June 30.

The final exam 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 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.

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>. *The use of or availability of any electronic device during a midterm exam or final exam is a violation of the Academic Integrity Policy.*

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 maybe 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 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.

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.

Homework Problems

	Sections(s)	Problems
1	5.5 (review) 7.1	On-line; 11, 13,14,17,19,35,41,51. On-line: 1,19,31 - Not on-line: 12, 20
	7.1	On-line: 3,9,15,36 – Not online: 16
	7.2	On-line: 3,5,6,7
2	7.2	On-line: 9,10,12 – Not on-line: 16,18
	7.3	On-line: 5,7,33 – Not on-line: 6
3	7.3	On-line: 9, 11, 34 - Not on-line: 10
	7.3	On-line: 15, 17, 19 - Not on-line: 18, 38
	6.1	On-line: 3, 5, 9, 11 - Not on-line: 10
4	6.1	On-line: 13, 19 - Not on-line: 20, 24
	6.2	On-line: 1, 3, 5, 9 - Not on-line: 4, 8
	6.2	On-line: 17, 19, 21, 23 - Not on-line: 18, 22
5	6.2	On-line: 12, 25, 42, 47 - Not on-line: 40
	6.2	On-line: 43, 51, 53 - Not on-line: 46, 58
	6.3	On-line: 12, 17 - Not on-line: 10
6	6.3	On-line: 19, 20 - Not on-line: 16
	6.3	On-line: 22, 23 - Not On-line: 24
	6.6	On-line: 7, 9, 13, 17, 22 - Not on-line: 12
7	6.6	On-line: 23, 24, 30, 49 - Not on-line: 34 Ch Review T/F: 7, 10, 11, 12, 13,14
	7.4	On-line: 7, 13 - Not on-line: 8, 10
	7.5	On-line: 5, 7, 9 – Not on-line: 8,10
8	7.6	On-line: 17 - Not on-line:
	7.6	On-line: 13 - Not on-line: 10
9	8.1	On-line: 9, 10, 11, 12, 14, 15, 23, 24
	8.2	On-line: 1, 3, 7, 9, 10, 12 - Not on-line: 4, 6

	8.2	On-line: 14, 15, 16, 17, 23, 35, 37 - Not on-line: 36
10	8.3	On-line: 4, 13, 15, 19, 21 - Not on-line: 6, 10, 12, 14
	8.3	On-line: 25, 26, 29 - Not on-line: 18, 22, 26
	8.4	On-line: 3, 5, 7 - Not on-line: 6, 18
11	8.4	On-line: 21, 23
	8.4	On-line: 19, 21, 23, 25, 43 - Not on-line: 20, 24, 26, 30
	8.5	On-line: 5, 7, 9, 15 - Not on-line: 12, 14, 16
12	8.5	On-line: 11, 18, 19, 23, 24 - Not on-line: 20, 26
	8.7	On-line: 5, 7, 11, 13, 14 - Not on-line: 6, 12
	8.7	On-line: 17, 44, 45 - Not on-line: 16, 46
13	8.7	On-line: 59, 61, 63 - Not on-line: 60, 62, 64 Ch. Review T/F: 1, 4, 5, 6, 9, 12, 14, 15, 17
	9.3	On-line: 4, 6, 15, 19 - Not on-line: 16, 20
	9.3	On-line: 27, 28, 31, 33 - Not on-line: 24, 30, 34
14	9.4	On-line: 5, 7, 10, 15 - Not on-line: 6, 12
	9.4	On-line: 17, 19, 21 - Not on-line: 20