MAT 296 — Calculus II
Spring 2017

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. 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.

Purchasing Your Textbook and WebAssign Access Code:
All students are required to have a WebAssign access code for online homework assignments. This code includes access to the online electronic version of the textbook. Some students will also want a physical copy of the textbook. **You may choose between the following options.** If you are unsure about which option to choose, please consult with your instructor.

(1) Purchase a WebAssign access code either at the SU bookstore or online at www.webassign.net. This access code includes access to the online electronic version of the textbook. If you purchase this code at the SU bookstore, it is valid for future semesters in the Calculus sequence. If you purchase it online and plan to take MAT 397, you should purchase the multi-term (lifetime of edition) version.

(2) Purchase a new textbook bundled with a WebAssign access code at the SU bookstore. This access code includes access to the online electronic version of the textbook, and is valid for future semesters in the Calculus sequence.

(3) Purchase a new textbook bundled with a WebAssign access code from the publisher's website at http://www.cengagebrain.com/micro/1-1HYUMAO. You can also purchase just your WebAssign access code at the publisher's website.

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: MAT 295-296-397 students are expected to complete the calculus sequence without the use of a calculator. Calculators will not be permitted on quizzes or exams.

Course Format: The course format is two or three lectures (depending on your section) and one recitation each week. Your primary instructor will introduce new material in lecture. Your recitation instructor will answer questions on the course material and the assigned homework problems. A quiz will be given in most recitation meetings. Midterm exams will be given during recitation. In MAT 296-100 only, midterm exams will be given during lecture.

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

> Homework and quizzes – 20%
> Each midterm exam – 20%
> Final Exam – 20%

Your course grade will be determined 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. Many of the problems will be done using WebAssign. Other problems are to be done with paper and pencil. Your instructor may require all or some of these to be handed in and graded. Completing all the homework problems is essential to be prepared for quizzes and exams.

Quizzes: There will be weekly quizzes given in recitation except in the weeks you have an exam. These quizzes will have 2 or 3 problems similar to the homework problems. **No makeup quizzes will be given.**

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

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Exam 1: Week of 2/6/17

Exam 2: Week of 3/6/17

Exam 3: Week of 4/17/17

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

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Monday, May 8, 2017, between 8:00 AM and 2:30 PM.

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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, 2017. The final exam <u>will not</u> 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.

Course Supervisor: Professor Jeffrey L. Meyer (this may not be your instructor), telephone 443-1479, email jlmeye01@syr.edu. Please first inform *your instructor* of any problems you are having with the course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor without delay.

Academic Integrity: Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level. *The use of or availability of any electronic device during a midterm exam or final exam is a violation of the Academic Integrity Policy.* For more information about the 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 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 should be a rewarding one.

Suggested Homework Problems and Tentative Course Schedule

Week	Date	Section(s)	Problems
1	1/16	5.5 (review)	On-line: 11, 13, 14, 17, 19, 35, 41, 51, 533XP
		7.1	On-line: 1, 19, 31
			Not on-line: 12, 20
		7.1	On-line: 3, 9, 15, 36, 501XP, 503XP, 510XP
			Not on-line: 16
		7.2	On-line: 3, 5, 6, 7, 522XP
2	1/23	7.2	On-line: 9, 10, 12, 503XP
			Not on-line: 16, 18
		7.3	On-line: 5, 7, 33, 502XP
			Not on-line: 6
3	1/30	7.3	On-line: 9, 11, 34, 504XP, 15, 17, 19, 505XP
			Not on-line: 10, 18, 38
		6.1	On-line: 3, 5, 9, 11, 13, 19, 502XP, 525XP, 537XP, 533XP
			Not on-line: 10, 20, 24
4	2/6	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
			Exam 1
5	2/13	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, 524XP
			Not on-line: 10
6	2/20	6.3	On-line: 19, 20, 519XP, 530XP
			Not on-line: 16
		6.3	On-line: 22, 23, 517XP
			Not On-line: 24
		6.6	On-line: 7, 9, 13, 17, 22
			Not on-line: 12

7	2/27	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, 501XP, 511XP Not on-line: 8, 10
		7.5	On-line: 5, 7, 9 Not on-line: 8, 10
8	3/6	7.6	On-line: 17, 505XP Not on-line:
		7.6	On-line: 13, 506XP Not on-line: 10 *Exam 2*
9	3/20	8.1	On-line: 9, 10, 11, 12, 14, 15, 23, 24
		8.2	On-line: 1, 3, 7, 9, 10, 12, 508XP, 520XP Not on-line: 4, 6
		8.2	On-line: 14, 15, 16, 17, 23, 35, 37, 514XP, 522XP Not on-line: 36
10	3/27	8.3	On-line: 4, 13, 15, 19, 21, 503XP, 523XP Not on-line: 6, 10, 12, 14
		8.3	On-line: 25, 26, 29, 528XP Not on-line: 18, 22, 26
		8.4	On-line: 3, 5, 7, 501XP, 507XP Not on-line: 6, 18
11	4/3	8.4	On-line: 21, 23, 521XP, 533XP
		8.4	On-line: 19, 21, 23, 25, 43 Not on-line: 20, 24, 26, 30
		8.5	On-line: 5, 7, 9, 11, 15, 18, 19, 23, 24, 501XP, 502XP, 508XP, 512XP Not on-line: 12, 14, 16, 20, 26
12	4/10	8.6	On-line: TBD Not on-line: 4, 7, 13, 14, 26
		8.7	On-line: 5, 7, 11, 13, 14 Not on-line: 6, 12
		8.7	On-line: 17, 44, 45, 501XP, 506XP, 59, 61, 63, 508XP Not on-line: 16, 46, 60, 62, 64

13	4/17	8.8	TBD
		9.3	On-line: 4, 6, 15, 19, 506XP, 514XP, 522XP Not on-line: 16, 20
		9.3	On-line: 27, 28, 31, 33 Not on-line: 24, 30, 34 ***Exam 3***
14	4/24	9.4	On-line: 5, 7, 10, 15, 517XP Not on-line: 6, 12
		9.4	On-line: 17, 19, 21, 503XP, 505XP Not on-line: 20
		Review	
15	5/1	Review	