MAT 296 - CALCULUS II Spring 2009

Course Description: MAT 296 is the second 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 more advanced courses in mathematics. This course covers techniques of integration, applications of integration in a variety of contexts, exponential growth and decay, improper integrals, parametric curves in the plane, polar coordinates, sequences and series (including power series, Taylor and Maclaurin series).

Text: *Calculus* (Early Transcendentals version) 6th Edition, by James Stewart, Thomson Brooks/Cole, 2008. (The material we will cover appears in Chapters 6 through 11.)

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 less in MAT 295 are at great risk in MAT 296. For these students it is important to review material from earlier courses, especially as it comes up again. At the same time it is also vital not to fall behind with the current material.

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

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. Exams will be given in the recitation section.

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 concerning homework, quizzes or exams 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 Hall or you can obtain a copy of the schedule in the Math Department Office.

Examinations: There will be three examinations during the semester. These will be given in the following recitation meetings:

Exam 1: the week that begins with 2/16
Exam 2: the week that begins with 3/23
Exam 3: the week that begins with 4/20

There will be **NO MAKE-UP EXAMS**. A missed examination 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 on the relevant portion of the final exam to replace the missed exam. Your instructor will announce their policy on missed quizzes.

Final Examination: The final examination covers the entire course. Final examination Period 12, 8:00 AM to 2:30 PM on **Monday, May 4th 2009,** is reserved for mathematics courses (except for Mat 275) numbered below 400. Your MAT 296 final examination will take place in a two-hour interval within this block. The 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 not make plans to leave campus until after 2:30pm on May 4th.** The final will not be given at any other time.

Grades: Each of the midterm examinations counts for 20% of your course grade. The final examination counts for 25%, with the remaining 15% coming from a recitation grade. This may involve homework as well as quizzes and attendance.

Course Supervisor: Professor Yuesheng Xu, 206E Carnegie. Telephone 443-1575. E-mail *yxu06@syr.edu*. Please inform your instructor of any problems you have. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor without delay.

Learning Goals:

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

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 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

Students with disabilities: Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to the instructor and

review those accommodations with the instructor. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary.

How to Succeed:

(1) 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.

(2) 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.

(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. 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!

(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.

Date	Sect.	Assignment
M 1/12 W 1/14 F 1/16	6.1 6.2	6.1 (1,2,3,4,5,11,13,17,19,21,23,27,29,31,48) 6.2 (3,5,11,13,15,17,19,21,23,34, 49,51,57,60)
M 1/19 W 1/21 F 1/23	6.3 6.4	No Class 6.3 (3,5,9,11,13,19,21,39) 6.4 (3,7,9,13)
M 1/26 W 1/28 F 1/30	6.4 6.5 7.1	6.4 (15,19,21,23) 6.5 (5,7,9,13) 7.1 (1,3,5,7,9,11,13,15,19,20,21,29,33,34,57,63)
M 2/2 W 2/4 F 2/6	7.2 7.3	7.2 (1,3,5,7, 13-29(odd), 43,45) 7.3 (1,3,5,6,7,9, 13,15,17,21,22,23,25,31(a))
M 2/9 W 2/11 F 2/13	7.4	Review for Exam 1 (Exam 1 will be given in the next week recitation class) 7.4 (1,2,5,9,11,15,17,21,23,25,37)
M 2/16 W 2/18 F 2/20	7.5 7.8	7.5 (1,2,5,17,18,31,45,49,63,69) 7.8 (1,5,7,11,13,21,30,31,35,39,49,51)
M 2/23 W 2/25 F 2/27	8.1 8.2 9.4	8.1 (2,5,7,9,11,13) 8.2 (5,7,13,15) 9.4 (2,3,9,12)
M 3/2 W 3/4 F 3/6	10.1 10.2	10.1 (6,8,9,12,13,15,16) 10.2 (4,5,11,12, 17,18,33,41)

No class for M 3/9 and W 3/11

M 3/16 W 3/18 F 3/20	10.3 10.4	10.3 (3,5,7,11,12, 16,17,23,33,35,37,61,63) 10.4 (3,5,6,17,23,27,30,47) Review for Exam 2 (Exam 2 will be given in the next week recitation class)

M 3/23	11.1	11.1 (3,5,11,13,15,10,17,19,21,22,31,32,33)
W 3/25 F 3/27	11.2	11.2 (3,4,9,11,17,19,21,23,25,27,37,39,49,53,59)

M 3/30	11.3	11.3 (3,4,7,12,15,20,25,27,40)
W 4/1 F 4/3	11.4	11.4 (3,5,9,11,13,15,25,30,31,33,38)

M 4/6	11.5 11.6	11.5 (2,3,5,11,15,23,27,32) 11.6 (1,3,4,5,7,15,19,23,31,33)
W 4/8 F 4/10		No Class

M 4/13	11.7 11.8	11.7 (1,4,7,9,13,15,21,23,24,25,35) 11.8 (3,5,7,9,15,18,19,22, 23,24,27,28)
W 4/15 F 4/17		Review for Exam 3 (Exam 3 will be given in the next week recitation class)

M 4/20	11.9	11.9 (2,3,4,7,912,13,15,23,24,25,27,28)
W 4/22 F 4/24	11.10	11.10 (4,5,6,7,11,13,15,27, 28,29,31,39,43,46,48,55)

M 4/27		Review for Final Exam

Final Exam: Monday, May 4th. Time to be announced in class. It will end by 2:30 PM - Do not make plans to leave campus before then.