

MAT 397, Calculus III

Spring 2005

Tuesday Recitations

Course 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 polar coordinates, vectors, vector-valued functions, functions of several variables, partial derivatives and multiple integration.

Course Supervisor: Professor Jeffrey L. Meyer, 206F Carnegie, 443-1479 or 443-1473, jlmeye01@syr.edu

Text: Calculus, 8th Edition, by Varberg, Purcell, and Rigdon, Prentice Hall.

Background for Course: MAT 296 (Calculus II) or its equivalent must be successfully completed before taking MAT 397 (Calculus III). Students who earned a C or less in MAT 296 are at great risk in MAT 397. These students should see their instructor for advice on strategies for relearning and reviewing the content of Calculus II.

Calculators: The TI83+ 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. Students are encouraged to use a graphics calculator on all assignments, quizzes and exams (including the final). Symbolic calculators (such as the TI89 or the TI92) may not be used on quizzes or exams (including the final). No calculator may be used to store formulas or information of any kind for an exam, and calculators may not be shared during exams.

Course Format: The course meets four times per week. Your primary instructor will meet with the class for three of these periods and your recitation instructor will meet with you for the other session. New material will be introduced in the lectures by your primary instructor. Your recitation instruction will answer questions on the course material and on assigned homework problems. The recitation instruction will work with you in solving additional problems related to the lecture material. Exams and quizzes will be given in the recitation section. A short quiz will be given in most recitation sessions other than those in which an exam is given.

Class Attendance and Participation: You are expected to attend and participate in class. Your success will be limited without your full attendance and participation. If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is your responsibility to find out about any announcements concerning homework, quizzes or exams that were made during the class.

Homework: Homework assignments are listed on the Syllabus and Homework Sheet for the entire semester. This work is to be completed for the next class meeting. Homework may be collected occasionally at the discretion of the instructor. 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 the homework grade in determining your final grade. *It is essential to do all the homework in a timely fashion!* In addition, your

instructor may use WEBWORK for collecting and grading additional homework and for review problems for the final exam.

Help: Your instructors will be available regularly during their office hours. You can seek help at the Calculus Help Center in the Reading Room of Carnegie Hall. The Help Center hours are posted by 215 Carnegie Hall and you can obtain a copy of the schedule in the Math Department Office.

Examinations: There will be three in-class examinations. Unless otherwise announced by your instructor, each of these exams will be given in the next recitation meeting after the review for the exam listed in the Homework sheet. There will be no makeup quizzes or exams, even in the case of an emergency. In case of a missed exam due to an emergency, we will use your score on the relevant portion of the final exam to replace the missed exam.

Final Examination: The final examination covers the entire course. Final examination Period 12 (8:00 AM to 2:30 PM on Monday May 9, 2005) is reserved for mathematics courses numbered below 400. Your MAT 397 final examination will take place during a two-hour block within the above time interval. The time and location will be announced in class near the end of the semester. **Students are required 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 you know the time of the final examination. It will not be given at any other time. It is not possible to take the final before the scheduled time.**

Grades: Your final grade will be computed approximately as follows:

Exams	60
Final	25
Quizzes and homework	15

Your course grade will be assigned based on the following guidelines:

93-100	A	77-79	C+
90-92	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	60-69	D
80-82	B-	0-59	F

Students with Disabilities: Students who need special consideration should contact the instructor at the beginning of the semester, so that accommodations can be made. Accommodations will not be made retroactively.

Course related Problems or Questions: Please inform your instructor of any problems you have with this course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor (listed on the first page) without delay.

Suggestions for How to Succeed:

(1) It is absolutely essential that you understand how to solve all the assigned problems. Since quiz and exam questions will be similar to these problems, it is crucial that you know how to solve every one of them. Once you understand how to solve a problem, write your solution down neatly and in full detail with explanations that would make your reasoning clear to a friend who sees the problem for the first time. Save these solutions in a three ring binder for review when you prepare for the exams.

(2) Ask questions in lecture, in recitation or at the clinic about anything that is not completely clear. Don't hesitate to bring questions to your course instructor or recitation instructor during office hours.

(3) Every day, read and study the sections in the textbook covered in the lecture. Reading 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) We believe you can be successful in this course! You should expect to work hard. Don't get discouraged if you find some of the material difficult. ***Some of the material is difficult!*** Be persistent and patient. If you follow the above suggestions, your experience in this course will be a rewarding one.

Syllabus and Homework

Tuesday Recitations

M	1/17	**	**	Martin Luther King Day - No classes
W	1/19	C1	12.1	(1-8,9,11,15,17,27,38)
			12.2	(1-8,9,11,13,15,17,21,25,31)
F	1/21	C2	12.6	3-29 (odd)
M	1/24	C3	12.7	1-17 (odd) 21-37 (odd)
W	1/26	C4	12.8	1,2,3,9,11,15,19,21,26,27,33
F	1/28	C5	13.1	1,3,5,11,17,21,25,31,35,39,58
M	1/31	C6	13.2	(1,3,4,5,11,12,14)
			13.3	(1,3,4,5,7,11,19,29,33)
W	2/2	C7	13.4	1-23 (odd), 31,33,35,41
F	2/4	C8	13.5	1,3,5,7,9,40 (Compute $T(t)$ and $N(t)$ only)
M	2/7	C9	14.1	1-17 (odd), 27,29
W	2/9	C10	14.2	1-15 (odd)
F	2/11	C11	14.2	17,23,25,26,28,30,33,51
M	2/14	C12	14.3	1-13 (odd), 16,18,21,23,28
W	2/16	C13	14.4	1,3,5,11,13,17,19
F	2/18	C14	14.4	(24,27,29)
			14.5	(15,17,21)
M	2/21	C15	Review for Test #1 in recitation Tuesday	
W	2/23	C16	14.5	1,3,5,13,14,25,27,33
F	2/25	C17	14.6	1,2,3,5,6,8,21,24
M	2/28	C18	14.7	2,3,5,6, 7-31 (odd)
W	3/2	C19	15.1	1,2,5,7,11,13,17,19,25,27,31,33,37,41
F	3/4	C20	15.2	1,3,5,7,13,17,25,29,30,49
M	3/7	C21	15.3	1,3,5,6,7,9,10,11,15,16,17,37
W	3/9	C22	15.4	1,3,9,11,15,18,19,21,24
F	3/11	C23	15.5	1-15 (odd), 21,25

March 14-18 Spring Break

M	3/21	C24	15.6	1,3,7,9,14,21,25
W	3/23	C25	15.7	1,3,7,15,17,19,26
F	3/25	**	**	Easter Break

M	3/28	C26	Review for Test #2 in recitation Tuesday	
W	3/30	C27	15.8	1,3,7,16,19,22,24
F	4/1	C28	15.8	(11,13,31)
			15.9	(1,3,5)
M	4/4	C29	15.9	7,9,12,17
W	4/6	C30	16.1	1,3,5,7,9,17,23
F	4/8	C31	16.2	1-19 (odd), 24
M	4/11	C32	16.3	1,7,11-23 (odd), 28,31,39
W	4/13	C33	16.4	1-17 (odd), 21,25
F	4/15	C34	16.5	1-17 (odd)
M	4/18	C35	16.6	1,3,7,11,15
W	4/20	C36	16.7	23,25,29,32
F	4/22	C37	16.8	1,3,5,15
M	4/25	C38	Review for Test #3 in recitation Tuesday	
W	4/27	C39	16.8	9,11,16,17,19
F	4/29	C40	Review	
M	5/2	C41	Review	
M	5/9		FINAL EXAM	

