

M408D: Sequences, Series, and Multivariable Calculus

Fall 2009

Unique Numbers 57150, 57155, 57160

1 Instructor

Dr. Michael B. Henry (You may address me as Dr. Henry)

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Office Hours: Tues. 2-3pm, Wed. 1-2pm or by appointment.

2 Teaching Assistant

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Office Hours: TBA

3 Class Time and Unique Course Numbers

Lecture: TTH 3:30 - 5:00pm in RLM 4.102

Discussion Sections (by unique course number):

57150: MW 8:00 - 9:00am in RLM 6.118

57155: MW 3:00 - 4:00pm in RLM 5.124

57160: MW 4:00 - 5:00pm in ECJ 1.204

4 Required Text

Calculus by James Stewart, 6th Edition

ISBN: 9780495482765

5 Course Description

M408D is a continuation of M408C and covers the following sections and chapters from Stewart's Calculus:

- 7.8 Indeterminate Forms and L'Hospital's Rule
- 8.8 Improper Integrals
- 12 Infinite Sequences and Series

- 11 Parametric Equations and Polar Coordinates
- 13 Vectors and the Geometry of Space
- 14 Vector Functions
- 15 Partial Derivatives
- 16 Multiple Integrals

The course is directed at students in the natural and social sciences and at engineering students. Emphasis will be placed on developing conceptual understanding and problem solving skills. Detailed proofs of theorems will generally be avoided.

6 Prerequisite and degree relevance

A grade of C or better in M408C or the equivalent is a required prerequisite for this course. The pace of M408C and M408D is brisk. For this reason, transfer students with one semester of calculus at another institution are requested to consult with the Undergraduate Adviser for Mathematics to determine whether M408D or an alternative, M408L, is the appropriate second course. 408D may not be counted by students with credit for Mathematics 408L, 308M. M408C and M408D (or the equivalent sequence M408K, M408L, M408M) are required for mathematics majors, and mathematics majors are required to make grades of C or better in these courses.

7 Course Assessment

In this course, your progress will be assessed through homework exercises and exams.

1. Weekly Homework Assignments:

- Homework exercises will be assigned at the end of each lecture. These exercises will be a mix of computational and conceptual questions. It is absolutely essential that you work on these exercises as they are assigned. Keeping up with the homework will make the lectures more understandable and will help keep your stress level down as the semester progresses.
- Homework will be collected at the **beginning** of lecture each Thursday. A subset of the assigned exercises will be graded by the grader. One homework exercise will be collected separately and graded by me. I will indicate which exercise will be collected separately in lecture the day before the assignment is due. **It is your responsibility to write your solution to this exercise on a separate sheet of paper so that it may be collected separately.** The calendar below indicates when homework sets will be assigned and when they will be collected.
- Mathematics should be a social activity. You *should* be talking with your classmates about lectures, examples, topics, and homework exercises you are struggling with. However, it is very important that you give each homework exercise a serious effort before consulting a classmate or speaking with me or the TA. If you do talk to a classmate about an exercise, it is essential that you independently write up a solution.
- **No late homework will be accepted.** However, you will be allowed to drop your lowest homework score.
- **Points will be deducted from homework assignments that are not neat, legible, stapled and with exercises properly ordered.**

2. Exams

- **There will be midterm exams on Tuesday, October 6 and Tuesday, November 17.** The first exam will cover material up to and including the lecture on September 29. The second exam will cover material covered in lectures from October 1 to November 10. **There will be a cumulative final exam on Wednesday, December 9 from 2:00 - 5:00 pm.** The location of the final is not yet determined. Please mark the dates of these three exams on your calendar now.
- Make-up exams will only be given in cases where a serious excuse is presented in writing at least a week before the exam or in cases of documented illness or emergencies. **The final exam can only be rescheduled for very serious reasons.** If you have a conflict with the final exam time, please notify me at least three weeks before the final. Poorly timed travel arrangements do not constitute a serious reason.

8 Lecture Calendar

This calendar is tentative and may be altered as the semester unfolds. Students will be notified in class of any changes to the schedule.

Date	Sections	HW Set Assigned	HW Sets Due
8/27	7.8	1a	
9/1	12.1, 12.2	1b	
9/3	12.2, 12.3, 8.8	2a	1a, 1b
9/8	12.3, 8.8	2b	
9/10	12.4, 12.5	3a	2a, 2b
9/15	12.5, 12.6	3b	
9/17	12.7, 12.8	4a	3a, 3b
9/22	12.8, 12.9	4b	
9/24	12.10, 12.11	5a	4a, 4b
9/29	11.1, 11.2	5b	
10/1	11.3, 11.4	6a	5a, 5b
10/6	Exam 1		
10/8	13.1, 13.2	7a	6a
10/13	13.2, 13.3	7b	
10/15	13.4, 13.5	8a	7a, 7b
10/20	13.5, 13.6	8b	
10/22	14.1, 14.2	9a	8a, 8b
10/27	14.2, 15.1	9b	
10/29	15.2, 15.3	10a	9a, 9b
11/3	15.3, 15.4	10b	
11/5	15.4, 15.5	11a	10a, 10b
11/10	15.6, 15.7	11b	
11/12	15.7, 15.8	12a	11a, 11b
11/17	Exam 2		
11/19	16.1, 16.2	13a	12a
11/24	16.2, 16.3	13b	
12/1	16.3, 16.4		13a, 13b
12/3	Final Exam Review		
12/9	Final Exam		

9 Grades

In this course, we will **not** use the +/- grading system. I may curve exam scores in the case when I determine the exam grade distribution is too low. I will never curve exam scores in a way that results in you receiving a lower score. **Although I reserve the right to curve exam scores, there is no guarantee that I will do so.**

The letter grade scale is as follows.

A	90 - 100
B	80 - 89
C	70 - 79
D	65 - 69
F	< 65

Grade allocation:

Homework	20 %
Exam 1	25 %
Exam 2	25 %
Final Exam	30 %

10 Attendance, Etiquette and Feedback

This course moves very quickly and mastering the material requires diligence and practice. Thus, it is absolutely essential that you attend all of the lectures and discussion sections and give serious effort to all of the homework exercises. If you need to leave during the middle of a lecture, please notify me before lecture begins and sit near the back of the room so that you may exit without disturbing others.

Technology has become an essential part of our lives and has provided students with many useful tools for learning. At the same time, these tools can be distracting to those around you. **Please mute all of your electronic devices at the beginning of each lecture.** If you intend to use a laptop during lecture, please sit near the back of the room so that your screen does not distract those sitting behind you.

During this course I will be asking you to give me feedback on your learning in informal as well as formal ways, including through anonymous surveys about how my teaching strategies are helping or hindering your learning. It's very important for me to know your reaction to what we're doing in class, so I encourage you to respond to these surveys, ensuring that together we can create an environment effective for teaching and learning.

11 The Learning Center

The UT Learning Center in Jester has a wide variety of material (drills, video-taped lectures, computer programs, counseling, math anxiety workshops, algebra and trig review, calculus review) as well as tutoring options, all designed to help students through calculus.

This fall the Learning Center is offering an early-semester course from Monday, August 31 to Thursday, September 3 entitled "Calculus Refresher for M408D". The course meets each day from 6:00 - 7:15pm. The Learning Center also offers two forms of tutoring to students throughout the semester. Drop-In Tutoring is a free, walk-in study environment supported by trained math tutors. Appointment Tutoring is individualized one-hour meetings with a trained math tutors. For more information, visit <http://www.utexas.edu/student/utlc/>

12 Academic Integrity

University of Texas Honor Code

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Each student in this course is expected to abide by the University of Texas Honor Code. **For this course, collaboration with fellow students is allowed only on the homework.** You are encouraged to study together and to discuss information and concepts covered in lecture with other students. Students may work together on homework problems, however each student must independently write up the solutions they intend to submit. This collaboration should never involve one student having possession of a copy of all or part of the work done by someone else, in either electronic form or hard copy.

12.1 Consequences of Academic Dishonesty

If it is determined that academic dishonesty occurred on a homework assignment, then all students involved will receive a zero on the assignment. Further action may be taken at my discretion and in accordance with the procedures set forth by Student Judicial Services.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam. Further action may be taken at my discretion and in accordance with the procedures set forth by Student Judicial Services.

13 Other University Notices and Policies

13.1 Deadlines for dropping the course

- Before September 11: You may drop the course without it showing up on your transcript.
- Between Sept 11 and Sept 23: Dropping the course will result in a “Q” on your transcript.
- Between Sept 23 and Oct 21: Dean’s approval is required to drop the course.
- After Oct 21: A student may drop the course only in the case of “urgent and substantiated, nonacademic reasons.”

13.2 Use of E-mail for Official Correspondence to Students

All students should become familiar with the University’s official e-mail student notification policy. It is the student’s responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your e-mail address are available at <http://www.utexas.edu/its/policies/emailnotify.html>.

In general, I am very good about responding to email in a timely manner. **However, I do not generally respond to email between 10:30pm and 9am.** Please do not expect a response during this time.

13.3 Religious Holy Days

Religious holy days sometimes conflict with class and examination schedules. If you miss an examination, work assignment, or other project due to the observance of a religious holy day you will be given an opportunity to complete the work missed within a reasonable time after the absence. It is the policy of The University of Texas at Austin that you must notify each of your instructors at least fourteen days prior to the classes scheduled on dates you will be absent to observe a religious holy day.

13.4 Documented Disability Statement

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or 1-866-329-3986 (video phone). Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).

Contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (video phone) or reference SSD's website for more disability-related information:
http://www.utexas.edu/diversity/ddce/ssd/for_cstudents.php

13.5 Behavior Concerns Advice Line (BCAL)

The Behavior Concerns Advice Line is a phone-in service that provides The University of Texas at Austins faculty, students and staff an opportunity to discuss their concerns about another individuals behavior. If you are worried about someone's behavior, you may use the Behavior Concerns Advice Line to discuss by phone your concerns. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>.

13.6 Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of the TA. Do not re-enter a building unless you are given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.