M408D Fall 2019

**Sequences, Series, y Mas**

**Prof Info**
- **Professor:** Kathy Davis
- **Phone:** 471-0128
- **Office:** RLM 9.138
- **Office Hours:** MW11:50-12:30. Also appointments MWF mornings
- **Email:** davis@math.utexas.edu
- **Web Site:** [http://www.ma.utexas.edu/users/davis/408d](http://www.ma.utexas.edu/users/davis/408d)

**Grading**
- **Homework:** 0% Not due, not collected, not graded
- **Exams:** 50% Two exams in TA session. See p2 for dates
- **Quizzes:** 25% Thurs in TA session; lowest dropped
- **Final:** 25% Not cumulative; p2 for date.
- **Cheat Sheets:** One 8.5 by 11 sheet; anything you want on it. Exams & Final only, not quizzes.
- **Make-Ups:** With advance notice only!! Even same day!

**Grades**
- 89.6-100: A
- 88.6-89.5: A-
- 79.6-88.5: B
- 78.6-79.5: B-
- 69.6-78.5: C
- 68.6-69.5: C-
- 59.6-68.5: D
- Below: F

**Final Exemption**
- All 100's; can drop one quiz but must be 90 or above.

**Canvas**
- Grades are posted on Canvas after the final.

**Text**
- Stewart, Calculus, Early Transcendentals, Eighth Edition, used only for extra homework. You can buy an online book. See the links on my site and in Canvas.

**Topics**
- Chaps 7, 9, 11, 14, 15. Detailed syllabus p5

**PreReqs**
- Appropriate score on placement exams.

**Goals & PreReqs**
- **Goals:** This course emphasizes computational ability and geometric understanding in calculus. It isn’t a theorem/proof class, but *it is the advanced class and it does move fast*. Class notes are very important.
- **Prereq:** one of: M408C, M408KL, M408NS

**SSD**
- The University of Texas provides appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-6441 TTY. If you plan on using accommodations, **you need to reserve a room start of semester**, or you'll lose your chance.
**Final Exam**
10am class Friday Dec 13, 9-9:50am
11am class Monday Dec 16, 2-2:50am

**Exam Dates**
E1 Thursday Oct 3
E2 Thursday Nov 7

**Other Important Dates**
Aug 28 This class starts
Sept 2 Labor Day Holiday
Nov 27-30 Thanksgiving Break
December 9 Last Class Day

**TA Info**
All your exam and quizzes are in your TA session. If you switch times, *I won't grade your exams*. Talk to us if you must switch, even for just one day.

**10am Class TA Session Meets Here:**
52445 TTh 2-3pm CPE 2.206
52450 TTh 5pm ECJ 1.240

**TA:**
**Phone:**
**Email:**

**11am Class TA Session Meets Here:**
52455 TTh 3:30-4:30pm UTC 1.118
52460 TTh 5:00-6:00pm UTC 1.114

**TA:**
**Phone:**
**Email:**

**TA Office Hours & CalcLab**
UT does CalcLab instead of TA office hours. To find hours and rooms, go to the CalcLab website:
https://www.ma.utexas.edu/academics/undergraduate/calculus-lab/

**Getting A Regrade**
You can ask for a regrade to correct things that you feel we missed, or graded unfairly. *We will never lower your grade.*

**The Rules: Ignore the rules, I won't regrade your stuff**
0) To get a regrade, you must take the exam/quiz in ink.
1) You can't get a regrade if you don't pick up your stuff from your TA.
2) Compare your work with the solutions your TA gave.
3) Mark what you want me to look at, and give the exam/quiz to me in class. NOT MY OFFICE
4) Ask for the regrade within three MWF days after we give it back in TA session.
5) I'll bring the regraded paper to class with me, usually the next class day.

Ichiban Very Important Rule: Don't throw stuff away.
**GOOD ADVICE**

0) The exams/quizzes are free response so you can get partial credit.
1) I grade based on work. No work shown, no points.
2) In grading I'm looking to see if you have learned the methods IN CLASS. Come up with stuff you learned in high school or from tutors or online, you could lose massive points. Check with me before using that stuff.
3) You get four chances to see what I expect of you on quizzes/exams
   a) The MWF lecture
   b) Problems worked in TA session
   c) Online solved problems: the 14u and the old quizzes/exams.
   d) The Quiz Tips online.

Skip all four: you could lose massive points.

Here's a general plan for studying:
   a) Start with working my online problems. If you get stuck, check your notes to see whether I did a similar problem. If not, discuss it with your study pals. You can check against the solutions online. If something seems wrong, you can also take a picture of your work and email me. Before 7pm.
   b) If something seems wrong on the 14U problems, email me. Don't waste hours of your own time.
   c) Go to TA session to work the practice problems. All are from from old exams/quizzes, so they are great study aids.

Where to find study material:
   a) The problems in Stewart are too simple, so it isn't enough and your exam problems will be harder.
   b) Every week I post online 14U problems with solutions. Because the course moves so quickly, you need to do these problems every night, after the lecture, or at the very least, every weekend. Solutions are posted, too!
   c) The homework has problems to practice you for the quizzes and exams. They don't have solutions.

**COMPUTING YOUR GRADE**

Average = 0.25*(Quiz Average) + 0.5*(Exam Average) + 0.25*Final

Your average determines your grade: no special deals, no retakes, no curves. These posted rules are legally binding: they cannot and will not be changed.
A General Overview Of What and When
Exam and Quiz Dates Are Fixed; Topics Vary

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• 7 Techniques of Integration (eight days)
  • Substitution Review
  • 7.1 Integration by Parts
  • 7.2 Trigonometric Integrals
  • 7.3 Trigonometric Substitution
  • 7.4 Integration of Rational Functions by Partial Fractions
  • 7.5 Strategy for Integration (use as a reference with good problem s
  • 7.8 Improper Integrals

• 9 Differential Equations (six days)
  • 9.1 Modeling with Differential Equations
  • 9.2 Direction Fields and Euler’s Method
  • 9.3 Separable Equations
  • 9.4 Models for Population Growth
  • 9.5 Linear Equations
  • 9.6 Predator-prey Systems (optional)

• 10 Parametric Equations and Polar Coordinates (four days)
  • 10.1 Curves Defined by Parametric Equations
  • 10.2 Calculus with Parametric Curves
  • 10.3 Polar Coordinates
  • 10.4 Areas and Lengths in Polar Coordinates
  • 10.5 Conic Sections (optional)
  • 10.6 Conic Sections in Polar Coordinates (optional)

• 11 Infinite Sequences and Series (twelve days)
  • 11.1 Sequences
  • 11.2 Series
  • 11.3 The Integral Test and Estimates of Sums
  • 11.4 The Comparison Tests
  • 11.5 Alternating Series
  • 11.6 Absolute Convergence and the Ratio and Root Tests
  • 11.7 Strategy for Testing Series
  • 11.8 Power Series
  • 11.9 Representations of Functions as Power Series
  • 11.10 Taylor and Maclaurin Series
  • 11.11 Applications of Taylor Polynomials

• 14 Partial Derivatives (three days)
  • 14.1 Functions of Several Variables
  • 14.2 Limits and Continuity
  • 14.3 Partial Derivatives
  • 14.5 The Chain Rule

• 15 Multiple Integrals (five days)
  • 15.1 Double Integrals over Rectangles
  • 15.2 Double Integrals over General Regions
  • 15.3 Double Integrals in Polar Coordinates
  • 15.4 Applications of Double Integrals (optional)