M408D Spring 2020
Sequences, Series, y Mas

Prof Info
Professor: Kathy Davis  Phone: 471-0128
Office: RLM 9.138
Office Hours: MW12:50-1:30. Also appointments MWF mornings. Email: davis@math.utexas.edu
Website: 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 dates.
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!

The Curve
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

Computing Your Grade
Average = .25*(Quiz Average) + .5*(Exam Average) + .25*Final
Your grade = your average: no special deals, no retakes. These posted rules are legally binding: they cannot and will not be changed.
Final exemption: All 100's; can drop one quiz but must be 90 or above.

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.

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 v.important.
Prereq: one of: M408C, M408KL, M408NS

SSD
If you plan on using accomodations, you need to reserve a room start of semester, or you’ll lose your chance. 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.
**Final Exam**
11am class Saturday May 16, 7-7:50pm
12noon class Wednesday May 13, 9-9:50am

**Exam Dates**
E1 Thursday Feb 27 in TA Session
E2 Thursday April 9 in TA Session

**Other Important Dates**
January 22 This class starts
March 16-21 Spring Break
May 8 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.* Check with us if you must switch, even for just one day.

**11am Class TA Session Meets Here:**
52455 TTh 8:30-9:30am CPE 2.220
52460 TTh 5-6pm CPE 2.210
**TA:**
**PHONE:**
**EMAIL:**

**12 noon Class TA Session Meets Here:**
52470 TTh 9:30-10:30am BUR 224
52475 TTh 3:00-4:00pm CPE 2.220
**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 somthing 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.
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A General Overview Of What and When
Exam and Quiz Dates Are Fixed; Topics Vary
Please keep in mind that students who pass this course meet the prerequisite for M 427K, where it assumed they have good calculus skills. The M 408C/D sequence is the fast sequence for students with good algebra skills; students who cannot maintain the pace are encouraged to take either the M 408N/S/M or the M 408K/L/M sequence.

Resources for Students
Some of our students have weak study skills. The Sanger 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. On request, (471-3614) they'll come to your classroom and explain their services.

You can help your students by informing them of SLC services.

Timing and Optional Sections
A typical semester has 42-44 MWF days. The syllabus contains material for 38 days; this allows some time for testing, reviews, and optional material. In the spring semester, you will have more time to cover optional material. Those teaching on TTh should adjust the syllabus; a MWF lecture lasts 50 min; a TTh lasts 75 minutes.

38 Class Days As:

- 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 reference with good problem set)
  - 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