M408D SUMMER 2019 FIRST HALF
SEQUENCES AND SERIES

PROF INFO

Professor: Kathy Davis  Phone: 471-0128
Office Hours: MW 12:50-1:30; Extra appointments MWF mornings
Office: RLM 9.138
Email: davis@math.utexas.edu  8am-5pm   Use this not Canvas
Web Site: http://www.ma.utexas.edu/users/davis/408d

GRADING

Homework  0%  Not collected, not graded
Exams  50%  Two (in-TA session). See p2 for dates.
Quizzes  25%  Two (in-TA session).
Final  25%  See p2 for date.
Cheat Sheets  E1 and E2. One 8.5 by 11 sheet; any thing
              you want on it.
Make-Ups  You must tell us in advance (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

CANVAS

We will not use Canvas

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

Chapters 7, 9, 11, 14, 15, Detailed syllabus : p5-5

PREREQS

Appropriate score on placement exams.

GOALS

Goals: This isn't a theorem/proof class. The goal is for you to learn
new techniques, to write answers in a clear coherent form, to see
applications and to get some understanding of why calculus works.

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 SEE ME EARLY in the semester,
and RESERVE A ROOM EARLY, or you'll lose your chance.
**Exam Dates**
E1 Tuesday June 25
E2 Thursday July 11

**Final Exam Date**
Monday August 19, 9am

**Other Important Dates**
Friday June 7 Classes Start
July 3-4 Holiday
July 12 Holiday (finals for other classes)
August 16 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.

TA: 
PHONE: 
EMAIL:

**TA Session Meets Here:**

86315 TTh 10-11:30 am CPE 2.206
86320 TTh 10-11:30 am CPE 2.212

**TA Office Hours:**

**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
2) Compare your work with the online solutions.
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. I give second regrades before the final.
**Computing your grade**

\[ AV = 25 \times (\text{Quiz Average}) + 0.5 \times (\text{Exam Average}) + 0.25 \times \text{Final} \]

Your average determines your grade: no special deals, no retakes, no curves. The rules on this syllabus are legally binding.

**Study Advice**

a) You will need to be in class, taking notes.
b) Watch out for your algebra; it's easy to lose points.
c) You need to show work. Anyone can get answers from Google; I want to see what you learned.

Here's a general plan for studying:
a) Start with working 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 also take a picture of your work and email me.
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 practice quiz/exam problems.

Where to find study material:
a) The problems in Stewart are too simple, so we have extra practice. For studying, you can start with Stewart but that isn't enough and your exam problems will be harder.
b) Every week I post 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; these are meant to be done in your TA session.
d) Finally, GO THROUGH YOUR NOTES to see if there's anything you've missed.

**This is not a course in which you drill dozens of problems and then get you problems just like the drill.** You need to do more than problems: you need to think about the kinds of problems you've seen and you need to organize that in your mind. The YAPS are designed to help.
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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 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)
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  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