

# Math 408C: Differential and Integral Calculus

Spring Semester 2011

**Unique Numbers 55420, 55425, and 55430**

## Where am I?

You are in Associate Professor Dan Knopf's 408C class.

- Lectures are 2:00–3:30 Tuesdays and Thursdays in RLM 4.102.

Your TA is Bobby Grizzard. Problem sessions meet Mondays and Wednesdays.

- Section 55420 meets 12:00–1:00 PM in RLM 7.124.
- Section 55425 meets 2:00–3:00 PM in RLM 7.124.
- Section 55430 meets 3:00–4:00 PM in RLM 6.122.

## Why am I here?

Math 408C introduces the concepts and methods of differential and integral calculus. We study calculus because it provides a useful language and a powerful toolkit for describing and modeling the world around us. This course will develop practical problem solving skills, enhanced by intuitive geometric understanding. Its main topics include limits, continuity, derivatives, maxima and minima, trigonometric, logarithmic and exponential functions, integration, calculating areas and volumes, and techniques of integration.

## What are the prerequisites for this course?

To remain in this course, you must have earned a score of at least 80 on the ALEXS placement exam. The official departmental page is: <http://www.ma.utexas.edu/academics/courses/descriptions/M408C.php>

## What textbook should I have?

*Calculus*, Sixth Edition, by James Stewart (available at the University Co-op Bookstore).

## How can I get extra help and information?

- The contact information for your professor and TA is below. We encourage you to come to us for individualized help if needed!

<i>Name</i>	<i>E-mail</i>	<i>Office</i>	<i>Phone</i>	<i>Office hours</i>
Dan Knopf	<a href="mailto:danknopf@math.utexas.edu">danknopf@math.utexas.edu</a>	RLM 9.152	471.8131	3:30–5:30 Tuesdays
Bobby Grizzard	<a href="mailto:rgrizzard@math.utexas.edu">rgrizzard@math.utexas.edu</a>	RLM 11.146	475.8809	1–2 MW, 11–12 Th, 12–1 F

- Homework assignments in this course will use QUEST, an online Learning and Assessment system. For information on how to enroll in and use QUEST, see: <https://quest.cns.utexas.edu/student/> and <http://web4.cns.utexas.edu/quest/support/student/>

- This course will also use BLACKBOARD. Class announcements will be posted there, and we will maintain discussion boards, called *MathChat*, where you may submit questions. Your TA and I will check these frequently and answer your questions as promptly as possible.
- The syllabus will be updated during the semester (e.g., as exam room scheduling becomes known). A current version will always be available on BLACKBOARD, as well as through a link from my home page: <http://www.ma.utexas.edu/users/danknopf>
- The Sanger Learning and Career Center provides a range of resources to help you benefit from this course as much as possible. Visit JES A315A or see

<http://www.lifelearning.utexas.edu/l.grouptutoring.html>

for drop-in tutoring. For individualized tutoring, see

[http://www.lifelearning.utexas.edu/l\\_individualtutoring.html](http://www.lifelearning.utexas.edu/l_individualtutoring.html)

or call 471.1217.

- See <http://www.ma.utexas.edu/academics/undergraduate/advising/> for information about math advising.
- Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities. Call 471.6259 or see <http://www.utexas.edu/diversity/ddce/ssd/> for information.

Please inform me of any approved accommodations as early in the semester as possible — at latest, at least one week before the first exam.

## How can I succeed in this course?

*This course covers a great deal of material and moves extremely rapidly!* You cannot afford to fall behind. To succeed, you will need good study habits, skill at basic algebraic manipulations, and a willingness to work hard. Here are some helpful tips.

- **Attend problem sessions.** Because I must introduce new concepts during lectures, there simply isn't time to work as many examples as would be pedagogically ideal. Problem sessions offer many more opportunities to learn from examples, clarify ideas, and practice using new concepts.
- **Ask questions** — in lecture, during problem sections, and on BLACKBOARD.
- **Do the homework.** No students, no matter how talented, can learn mathematics without working examples themselves. The most important component of success in virtually any math course is diligence in doing practice exercises.
- **Read the text.** To get the most benefit from the lectures and problem sessions, you should read relevant sections of the text to reinforce the topics covered during lecture and problem sessions.
- **Come to office hours.** Office hours offer valuable opportunities to reinforce concepts, clarify confusing issues, work more examples, and get individualized feedback. Both your TA and I are happy to see students in our office hours.
- **Study together with your peers enrolled in the class.** In this regard, note that the University provides *Residential Hall Study Groups* that meet 7:30–10:30 Sunday–Thursday nights in the Jester West and Kinsolving dorms. Regardless of whether or not you use this resource, get to know your classmates, and make arrangements to share notes in case you miss class due to illness.
- **Learn to work problems either with or without a calculator.** You may use a calculator on homework problems but not during exams.
- **Be honest.** Any academic dishonesty will be severely penalized. In this regard, please note that **no books, notes, calculators, or mobile phones are allowed during exams.**

## How will the course be graded?

There will be twelve homework assignments, two midterm exams, and a cumulative final exam. There will be one (and only one!) opportunity for extra credit.

- **Homework:** There will be twelve homework assignments, collectively worth **15%** of your grade.
  - Each homework assignment will appear on QUEST on a Wednesday. Each assignment is due one week later — by midnight of the Tuesday after it is assigned. (See schedule below.)
  - Notice that I have strategically scheduled my office hours for shortly before each assignment is due.
  - During problem sessions, your TA will help you work practice problems: these will be the same as the problems on your homework, but with different numerical values. (Everyone’s homework will have the same problems, but with different numbers.)
  - The homework problems are multiple choice. QUEST will immediately tell you whether your answer is correct or not. If not, QUEST gives you additional opportunities to get the correct answer. The fewer tries you need, the more points you earn. This provides a kind of “partial credit” in the multiple-choice framework.
  - You can print out your homework and work on it anywhere. You complete your assignment online, using a browser.
  - **Late homework is not accepted under any circumstances.** A late assignment counts as a missed assignment. However, to allow for illness, emergencies, and other valid excuses, the lowest two homework scores will be dropped.
  - Your top ten scores will be averaged to determine 15% of your overall course grade.
- **Midterm exams:** There will be two in-class midterm exams. Collectively, they will determine **50%** of your overall grade
  - Each in-class exam will count for 25% of your overall grade. (See schedule below.)
  - The exams are open-response, not multiple-choice: **you will receive partial credit.**
  - If you miss an exam, you must contact me before the exam and provide a valid written **serious** excuse in order to be allowed to take a make-up.
  - **No exam scores are dropped.**
- **Final exam:** The final exam will determine **35%** of your overall grade.
  - Approximately half of the final will cover material not on either of the first two exams. The remainder will be cumulative.
  - The final exam is open-response: **you will receive partial credit.**
  - The final exam time and location is set by the Registrar. (See schedule below.) You may request an alternate time for your final exam only for a **very serious** reason, such as hospitalization.
- **Extra credit:** During the first problem session (January 19) we will administer a multiple-choice assessment designed to test your readiness for this course. You can raise your semester grade by **1%** (i.e. 1 point on the 100-point scale below) simply by taking this quiz — regardless of your score!

Your overall grade will be computed according to a scale at least as generous as this:

F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A
0–50	51–55	56–63	64–65	66–67	68–75	76–77	78–79	80–87	88–89	90–91	92–100

## What is the lecture schedule?

The following schedule is only approximate and may be altered for pedagogical reasons.

**It is your responsibility to be aware of all changes announced in class.**

**Tuesday, January 18** Introduction, Section 2.1

**Wednesday, January 19** *First problem sessions*

**Thursday, January 20** Sections 2.2, 2.3

**Friday, January 21** *Last day of the official add/drop period*

**Tuesday, January 25** Sections 2.4, 2.5      (*Homework 1 due*)

**Thursday, January 27** Sections 3.1, 3.2

**Tuesday, February 1** Section 3.3      (*Homework 2 due*)

**Wednesday, February 2** *Last day to drop for a possible refund*

**Thursday, February 3** Sections 3.4, 3.5

**Tuesday, February 8** Sections 3.6, 3.7      (*Homework 3 due*)

**Thursday, February 10** Sections 3.8, 3.9

**Tuesday, February 15** Sections 4.1, 4.2      (*Homework 4 due*)

**Thursday, February 17** Section 4.3, Review

**Tuesday, February 22** Exam I — during regular class time but in WEL 3.502

**Wednesday, February 23** *Exam I solutions reviewed during problem session*

**Thursday, February 24** Sections 4.4, 4.5

**Tuesday, March 1** Section 4.7      (*Homework 5 due*)

**Thursday, March 3** Sections 4.9, 5.1

**Tuesday, March 8** Sections 5.2, 5.3      (*Homework 6 due*)

**Thursday, March 10** Section 5.4

**Monday, March 14** *In honor of  $\pi$ -day, spring break begins — no classes this week*

**Tuesday, March 22** Section 5.5      (*Homework 7 due*)

**Thursday, March 24** Section 6.1

**Monday, March 28** *Last day to drop, except for urgent and substantiated nonacademic reasons*

**Tuesday, March 29** Section 6.2      (*Homework 8 due*)

**Thursday, March 31** Section 7.1, Review

**Tuesday, April 5** Exam II — during regular class time but in WEL 3.502

**Wednesday, April 6** *Exam II solutions reviewed during problem session*

**Thursday, April 7** Sections 7.2\*, 7.3\*

**Tuesday, April 12** Sections 7.4\*, 7.5      (*Homework 9 due*)

**Thursday, April 14** Section 7.6

**Tuesday, April 19** Section 7.8      (*Homework 10 due*)

**Thursday, April 21** Section 8.1

**Tuesday, April 26** Section 8.2      (*Homework 11 due*)

**Thursday, April 28** Section 8.3

**Tuesday, May 3** Section 8.4      (*Homework 12 due*)

**Thursday, May 5** Section 8.5, Review.

**Wednesday, May 11** Final Exam — 2:00–5:00 PM in WEL 2.246