

Calculus 234 Lecture 1

Shirin Malekpour

Spring 2005

1 General Information

Lecture 1 9:30-10:45 TR, B130 Van Vleck

My Office and Phone 720 Van Vleck, 263-3745

e-mail malekpou@math.wisc.edu

Home Page <http://www.math.wisc.edu/~malekpou>

My Office Hours 11-12 TR, 2:15-3:15 Tuesday and/or by appointment.

Text [VPR] Varberg, Purcell, Rigdon: *Calculus*, Eighth Edition.

2 Teaching Assistants

Name	Office	Phone	E-Mail
Pantea Casian	516 Van Vleck	3-2433	pantea@math.wisc.edu
Kent, Tom	618 Van Vleck	2-0177	kent@math.wisc.edu

3 Policy

There will be two midterm exam each worth 25% of your grade. The final is worth 40%. The remaining 10% of the grade is assigned by your TA who will base it on homework, effort, quizz and attendance in discussion section.

Calculators may not be used on exams: they are not needed since you will not be penalized for not doing arithmetic. (An answer like $2 + 3$ is acceptable, but an answer like $2 + 3 = 6$ will be penalized.) Exams will be closed book: you will not be allowed any notes. *If you understand why a formula is true, you will find it easier to remember.*

You should prepare the problems corresponding to a lecture topic for the discussion section immediately following. I have put a list of suggested problems

in the lecture schedule. However, your TA will assign homework problems and it is at his or her discretion how to handle them. Mathematics is not a spectator sport, the more problems you do, the more calculus you will learn.

4 WEB PAGE

If you surf the net visit my home page at

<http://www.math.wisc.edu/~malekpou>

The latest version of the syllabus will be there and also a link to the Math department exam file, which contains many old 234 exams. There may be other interesting information (like what you need to know for 234, handouts, etc.)

5 Getting Help

If you are having difficulty, first talk to your TA or Lecturer. If you cannot come to the scheduled office hours, make an appointment to see either at a different time. Your TA will have two scheduled office hours each week and I have three as indicated above. There are some links for getting help in math at

<http://www.math.wisc.edu/~tprogram/mathhelp.html>

Here here is some of the information found there:

MATH LAB

The Math Lab is an especially good place to go if you have a quick homework question; more detailed questions are probably better directed to your TA.

Location: B227 Van Vleck Hall (across from the Mathematics Library).

Hours: Monday through Thursday, 3:30 - 5:10 pm, and 6:30 - 8:10pm.

Dates: Starting the second week of classes (usually), through the end of the semester.

Courses: 101, 112, 113, 114, 171, 211, 213, 221, 222, 234, and 272.

Cost: Free.

PRIVATE TUTORING

The Mathematics Department publishes a list of Mathematics graduate students who are willing to tutor students; copies are available on the second floor of Van Vleck Hall, next to the elevators. According to Math Department policy, TA's are not supposed to tutor in courses they are teaching.

Location: Varies; many tutors will meet in Van Vleck Hall; some will meet off-campus.

Courses: Most undergraduate courses.

Cost: Fees vary from tutor to tutor; typical costs are \$15 to \$25 per hour.

MATH BOARD

The Math Board is a wooden board with slots labelled for many of the department's mathematics courses (101 through 632); interested students can fill out a card with information about themselves (name, course, instructor, contact information), and put that card in the slot which matches their course. Students can also read the cards that have been placed into the various slots, and use the information from the cards to contact one another to set up study groups, etc.

Location: The Math Board is on the second basement level of Van Vleck, just opposite room B207.

Courses: Most undergraduate courses.

Cost: Free.

GUTS

The **G**reater **U**niversity **T**utoring **S**ervice¹ is run by the Student Union using student volunteers.²

Location: The GUTS office is in 303 Union South (263-5666); their tutoring sessions are held in a variety of campus locations (Helen C. White Library, Gordon Commons, Kronshage Hall).

Hours: Vary, but typically 5-11pm Sunday through Thursday evenings.

Dates: Starting the third Sunday of each semester.

Cost: Free.

Their web page is at

<http://www.stdorg.wisc.edu/guts/guts.htm>

The GUTS office is in 303 Union South (phone 263-5666) and is open from 1-5 Monday through Thursday. They have organized calculus study groups (contact the office) that meet two hours per week and one on one tutoring. They also have an exam file.

DROP IN TUTORING (ENGINEERING)

The college of Engineering offers drop in tutoring at various time in Wendt Library. For more information see their web page at

<http://www.engr.wisc.edu/services/dao/tutor/>

¹Previously called **Help At Student Housing**

²Consider volunteering yourself! There is no better way to learn than by teaching someone else.

6 Lecture Schedule

The following schedule is only approximate. Your TA may assign extra problems from each section.

Week	Topic	Suggested Homework
1:Jan 17-21	14.1-14.5 review of vectors 13.5, 14.5 Velocity, acceleration, and curvature	14.8 Concepts test 1-30
2:Jan 24-28	14.6 Surfaces in three-space 14.7 Cylindrical and Spherical coordinates	5, 7, 13, 15, 21 3, 11, 15, 25, 29
3:Jan 31- Feb 4	15.1 Multivariable functions 15.2 Partial derivatives 15.3-4 Limits and continuity	5, 9, 23, 25, 33 3,13,17,19,33,41 15.3 3, 15, 17, 25, 27 15.4 9, 13, 15, 17, 19
4: Feb 7-11	15.5 Directional derivatives and gradients 15.6 Chain Rule	3, 7, 9, 11, 13, 17, 21, 23, 25, 27 1, 7, 11, 15
5: Feb 14-18	15.6 Implicit Differentiation 15.7 Approximations	21, 23, 29 7, 17, 19, 25, 27
6: Feb 21-25	15.8 Max and min 15.9 Lagrange Multipliers	1, 3, 5, 7, 9, 11, 19, 23, 27, 31 1, , 3, 5, 11, 17
7: Feb 28-Mar 4	Exam I: March 3, 2005	
8: Mar 7-11	16.1-2 Double integrals and iterated integrals	16.1: 1, 5, 7, 11, 23 16.2: 1, 7, 23, 25, 33
9: Mar 15-19	16.3 Integrals over nonrectangular regions 16.4 Polar coordinates	11, 13, 19, 33, 39 5, 11, 15, 21, 23
Spring Break		
10: Mar 28-Apr 1	16.7-8 Triple integrals 6.6, 16.5 Center of mass	16.7: 1, 7, 9, 11, 13, 15, 21, 27, 29, 31 (a,b) 16.8: 3, 5, 7, 13, 17(c) 16.5: 1, 3, 5, 11, 15 6.6: 3,4, 5
11: Apr 4-8	16.6 Surface area and change of variables Exam II: April 7, 2005	
12: Apr 11-15	17.1 Vector fields 17.2 Line intergrals	17, 19, 21, 23, 29 3,5,13,15, 19
13: Apr 18-22	17.3 Independence of the path 17.4 Green's theorem	3, 5, 7, 11, 13, 17, 19, 21, 23, 25 1, 3, 5, 13, 19
14: Apr 25-29	17.5 Surface integrals 17.6 The divergence Theorem	9, 11, 17 1, 3, 5, 7, 11, 15(a),(c) 17, 19
15: May 3-7	17.7 Stoke's Theorem Last day of class: May 5, 2005	3, 7, 9, 11, 19
Final Exam	Wednesday, May 11 7:25 p.m.	