

Calculus 234 Lecture 2

J. Robbin

Spring 2003

1 General Information

Lecture 2 12:05 MWF, B130 Van Vleck

My Office and Phone 313 Van Vleck, 263-4698

My e-mail robbin@math.wisc.edu

My Home Page <http://www.math.wisc.edu/~robbin>
(Click the link for 234)

My Office Hours 2:20 Monday, 9:00 Wednesday, 10:00 Thursday.

Text [TF] Thomas & Finney: *Calculus and Analytic Geometry* Fifth edition.
[VPR] Varberg, Purcell, Rigdon: *Calculus*, Eighth Edition. (The official text this semester is [TF]; the official text starting in Fall of 2003 will be [VPR]. Some students have reported to me that they like [VPR] better.)

2 Teaching Assistants

Name	Office	Phone	E-Mail
Ahyoung Kim	620 Van Vleck	262-3600	akim@math.wisc.edu
Norberto Laghi	416 Van Vleck	263-6258	laghi@math.wisc.edu
Benjamin Newton	622 Van Vleck	263-2464	newton@math.wisc.edu

3 Discussion Sections

321	Laghi	8:50 T	6101 SOC SCI
322	Laghi	8:50 R	6228 SOC SCI
323	Laghi	9:55 T	6101 SOC SCI
324	Laghi	9:55 R	6102 SOC SCI
325	Kim	11:00 T	579 NOLAND
326	Kim	11:00 R	6224 SOC SCI
328	Newton	12:05 R	113 INGRAHAM
329	Kim	1:20 T	6224 SOC SCI
330	Kim	1:20 R	120 INGRAHAM
333	Newton	1:20-3:15 TR	277 BASCOM

4 Policy

Each evening exam is worth 25%. The final is worth 40%. The remaining 10% of the grade is assigned by your TA who will base it on homework, effort, and attendance in discussion section.

It is guaranteed that a score of 80% on any exam is at least a B. It is guaranteed that 80% of the questions on an exam will consist of either problems or examples from the text and handouts. (This includes the review problems and miscellaneous problems at the end of each chapter.)

Calculators may not be used on quizzes or 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.*

The syllabus below indicates which homework problems you should be prepared to discuss in discussion section. You are not expected to write up all the solutions, but the more problems you do, the more calculus you will learn. Your TA will tell you which problems to write up and hand in.

5 Lecture Schedule

The following schedule is only approximate. The textbook reference [TF] refers to this semester's official text, [VPR] refers to next semester's official text. Each week has shows two topics and two lists of homework problems. Ideally, the lecture will cover the first topic on Monday, the lecture will cover the second topic on Wednesday, and Friday will be used for review, doing problems in lecture, and quizzes. Each list of homework problems deals with the preceding lecture topic.

Martin Luther King Day: Monday Jan 20

First Class Day: Tuesday Jan 21

Week 1: Jan 21-25

[TF] 11.1-9, [VPR] 14.1-5 *Review of vectors*

[TF] 12.1-6, [VPR] 13.5,14.5 *Velocity, acceleration, and curvature*

Week 2: Jan 27-31

[TF] 11.10-11, [VPR] 14.6 *Surfaces in three-space*

[TF] 11-4, [VPR] 14.7 *Cylindrical and Spherical coordinates*

Week 3: Feb 3-7

[TF] 13.1-2, [VPR] 15.1 *Multivariate functions*

[TF] 13.1-4, [VPR] 15.3-4 *Limits and Continuity*

[TF] 13.3-4, 13.12, [VPR] 15.2 *Partial derivatives*

Week 4: Feb 10-14

[TF] 13.3-4, 13.12, [VPR] 15.2 *Differentiability*

[TF] 13.5-6 [VPR] 15.5 *Directional derivatives and gradients*

[TF] 13-7 [VPR] 15.6 *Chain rule*

Week 5: Feb 17-21

[TF] 13-7 [VPR] 15.6 *Implicit Differentiation*

[TF] 13-8 [VPR] 15.7 *Approximation*

Week 6: Feb 24-28

[TF] 13-9 [VPR] 15.8 *Max and min*

[TF] 13.11, [VPR] 15.9 *Lagrange multipliers*

Week 7: Mar 3-7

Evening Exam: Thursday Mar 6 5:30-7:00 PM

Week 8: Mar 10-14

[TF] 14.1 [VPR] 16.1-2 *Double integrals and iterated integrals*

Spring Break: Saturday-Sunday March 15-23

Week 9: Mar 24-28

[TF] 14.2, [VPR] 16.3 *Integrals over nonrectangular regions*

[TF] 14.4, [VPR] 16.4 *Polar coordinates*

Last Day to Drop: Friday March 28

Week 10: Mar 31-Apr 4

[TF] 14.5-6, [VPR] 16.7, 16.8 *Triple integrals*

[TF] 14.3, 14.7, [VPR] 6.7, 16.5 *Center of mass*

Week 11: Apr 7-11

[TF] 14.9, [VPR] 16.6 *Surface area and change of variables*

Evening Exam: Thursday Apr 10 5:30-7:00 PM
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Week 12: Apr 14-18

[TF] 15.1, [VPR] 17.1 *Vector fields*

[TF] 15.3, [VPR] 17.2 *Line integrals*

Week 13: Apr 21-25

[TF] 15.3, 13.13, [VPR] 17.3 *Independence of the path*

[TF] [15.2, [VPR] 17.4 *Surface Integrals*

Week 14: Apr 28-May 2

[TF] 15.5, [VPR] 17.4 *Green's Theorem*

[TF] 15.6, [VPR] 17.5 *The Divergence Theorem*

Week 15: May 5 -May 9

[TF] 15.7, [VPR] 17.6 *Stokes Theorem*

Last Class Day: Friday May 9

FINAL: (Exam Period 63) Wednesday May 14 5:05 PM
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WEB PAGE

There is a link to the course web page on my home page

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

The latest version of the syllabus will be there. There may be other interesting information (like what happened in the lectures.) There are computers all over campus which you can use to surf the net. In particular, you can use the Math Department Computer Lab which is located in 101 Van Vleck. There are some other important links for getting help in math at

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

FACULTY MINORITY LIASON

The Math Department Faculty Minority Liaison is Prof. Daniel Rider. He has information available concerning diversity and multicultural issues (e.g. support services, academic internships and grants/fellowships). He is also available to discuss minority students' concerns about mathematics courses. Prof. Rider can be reached at 263-3603, drider@math.wisc.edu or in 821 Van Vleck.

6 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. Here are some other places you can get help:

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.

You can find a link to the Web page for this program at

<http://www.math.wisc.edu/undergrad/>

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 **Greater University Tutoring Service**¹ 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.

¹Previously called **Help At Student Housing**

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

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/>

SUPPLEMENTARY INSTRUCTION (COLLEGE OF ENGINEERING)

The Academics Affairs Office in the College of Engineering will continue offering the Supplementary Instruction (SI) Program for Math 234, Physics 201 and 202, three gateway courses for engineering students, this spring semester. The goals of the supplementary sessions are to help students develop and use problem solving skills, help students improve their understanding of course concepts, and provide a space and support that will facilitate cooperative learning. Students who choose to participate in a supplementary session will be asked to commit to attending the session throughout the semester. The supplementary instruction sessions will be held in the renovated group study area on the 4th floor of the Engineering Library (Wendt Library). There will be three supplementary sessions offered for Math 234, three for Physics 201, and two for Physics 202, with a limit of 12 students in each session. Each session will meet twice a week for 50 minutes. These supplementary sessions are available to students regardless of whether they have an engineering classification. The service will be publicized using the class e-mail list.

The program is being supervised by Ms. Eman Zaki, pre-engineering advisor in the Academic Affairs office of College of Engineering (zaki@engr.wisc.edu, 265-8268), and coordinated by Dr. Jia-Ling Lin, assistant scientist in the Physics Department (jllin@facstaff.wisc.edu, 262-5047/265-1099).