MATH 1502 SYLLABUS

SPRING 2000

Course Number:	MATH 1502, Sections C1–C5
Course Name:	Calculus II
Lecture Time:	MWF 10:05 a.m.
Lecture Room:	Physics Lecture Room 1
Professor:	Dr. Christopher Heil Office: Skiles 260 Office Phone: (404) 894-9231 Email Address: heil@math.gatech.edu
Office Hours:	MWF 1:30–2:30 p.m., and by appointment
Contacting me:	Please don't be afraid to contact me outside of class. If you can't come during office hours, stop by after class to make an appointment. I encourage you to send questions by email. I check email often, including evenings and weekends. Try it!
Recitation Time:	TuTh 10:05 a.m.
TA and Room:	C1: Roberto Rivera, Skiles 202 C2: Nicolas Bronn, Skiles 246 C3: Claudia Antonini, Skiles 256 C4: Todd Moeller, Skiles 268 C5: Faisal Alturki, Skiles 140
Tutoring Lab:	The mathematics department operates a tutoring lab during the quarter in Skiles 257. The lab is usually open many hours a day and is staffed by teaching assistants. Watch for announcements on the walls of the halls of the math department.
Textbook 1:	*Calculus*, by Salas, Hille, and Etgen
Material:	L'Hopital's Rule and Improper Integrals (Sections 10.5–10.7) Infinite Series (Sections 11.1–11.4) Taylor Polynomials and Taylor Approximation (Sections 11.5–11.6) Power Series (Sections 11.7–11.8) Numerical Integration (Section 8.7)
Textbook 2:	*Vector Calculus, Linear Algebra, and Differential Forms*, by Hubbard and Hubbard
Textbook 3:	*Primer for Linear Algebra*, by Demko
Material:	Introduction to Vectors and Matrices (Sections 1.1-1.4 in H-H, 3.6 in D) Row Reduction (Sections 2.1-2.2 in H-H) Inverses and Elementary matrices (Section 2.3 in H-H) Linear Independence (Section 2.4 in H-H, 3.1-3.3 in D) Kernels and Images, Least Squares (Section 2.6 in H-H, 3.5 in D) Rotations, Reflections, and Projections (Chapter 4 in D)

Grading. Your grade will be determined by your performance on quizzes, in-class exams, and the final exam:

12 Quizzes	5 points each, 60 points total
Hour Exam I	40 points
Hour Exam II	40 points
Hour Exam III	40 points
Final Exam	70 points
TOTAL	250 points

Letter grades will be based on your accumulated points at the end of the quarter, according to 90%, 80%, 70%, 60% cutoffs (although I may adjust the cutoffs downward at the end of the quarter, depending on class distribution):

225–250	at least A
200–224	at least B
175–199	at least C
150–174	at least D
0–149	at least F

At the end of the course, I'll evaluate the class distribution and decide if a curve is needed. I'll only curve *down* from the above cutoffs, not up.

Homework. I will assign recommended homework problems from each section. These problems will not be collected, but working them is the best way to prepare for the quizzes and exams. Recitations are your chance to get help with this homework and to prepare for the exams. The teaching assistant is there to help you with the material, but IT IS UP TO YOU TO MAKE RECITATION WORK! Come prepared! Work out problems ahead of time and bring your questions.

Quizzes. There will be a 15-20 minute quiz at the BEGINNING of each Thursday recitation, except for weeks in which an hour exam is scheduled. NO CALCULATORS ARE ALLOWED ON QUIZZES OR EXAMS.

Exams. The exams test UNDERSTANDING as well as problem solution skills. The final is comprehensive. The tentative dates for the exams are:

Hour Exam I	Thursday, February 3
Hour Exam II	Thursday, March 2
Hour Exam III	Thursday, April 6
Final Exam	Wednesday, May 3, 11:30 a.m.–2:20 p.m.

Make-up exams are given only in extreme circumstances.

Course Etiquette.

1. Attendance at lectures and recitations is required. Roll will be taken at each Tuesday recitation. A quiz or exam will be given at each Thursday recitation.

2. The Thursday quiz will be given at the beginning of recitation. ANYONE WHO LEAVES RECITATION AFTER THE QUIZ WILL RECEIVE A 0 FOR THE QUIZ AND HAVE AN ADDITIONAL 5 POINTS SUBTRACTED FROM THEIR GRADE.

3. Do not talk in class or recitation except to ask questions and interact with the instructor. You are here to learn; if you don't want to learn, at least do not interfere with those who do.

MATH 1512 SYLLABUS

SPRING 2002

Course Number:	MATH 1512 H
Course Name:	Honors Calculus II
Lecture Time:	MWF 11:05–11:55 a.m.
Lecture Room:	Skiles 254
Professor:	Dr. Christopher Heil Office: Skiles 260 Office Phone: (404) 894-9231 Email Address: heil@math.gatech.edu
Office Hours:	TBA, and by appointment
Contacting me:	Please don't be afraid to contact me outside of class. If you can't come during office hours, stop by after class to make an appointment. I encourage you to send questions by email. I check email often, including evenings and weekends. Try it!
Recitation Time:	TuTh 1:05–1:55 p.m.
Recitation Room:	Skiles 168
Teaching Assistant:	Athanasios Spiliotopoulos
Textbook 1:	*Calculus*, by Salas, Hille, and Etgen
Material:	L'Hopital's Rule and Improper Integrals (Sections 10.5–10.7) Infinite Series (Sections 11.1–11.4) Taylor Polynomials and Taylor Approximation (Sections 11.5–11.6) Power Series (Sections 11.7–11.8) Numerical Integration (Section 8.7)
Textbook 2:	*Linear Algebra and its Applications* (Second Edition), by David Lay
Material:	Linear Equations in Linear Algebra (Chapter 1) Matrix Algebra (Chapter 2) Determinants (Chapter 3) Vector Spaces (Chapter 4) Eigenvalues and Eigenvectors (Chapter 5) Orthogonality and Least Squares (Chapter 6)

Grading. We will have four take-home assignments (homework), three in-class exams, and a final exam, scored as follows:

4 Homeworks	20 points each
3 Exams	30 points each
Final Exam	50 points
TOTAL	220 points

Letter grades will be based on your accumulated points at the end of the quarter, according to 90%, 80%, 70%, 60% cutoffs (although I may adjust the cutoffs downward at the end of the quarter, depending on class distribution):

198–220	A
176–197	B
154–175	C
132–153	D
0–131	F

At the end of the course, I'll evaluate the class distribution and decide if a curve is needed. I'll only curve *down* from the above cutoffs, not up.

Exams. The tentative dates for the exams are:

Hour Exam I	Tuesday, February 5
Hour Exam II	Tuesday, March 5
Hour Exam III	Tuesday, April 2
Final Exam	Wednesday, May 1, 8:00–10:50 a.m.

The final is comprehensive. No electronic devices are allowed at the exams. Make-up exams are given only in extreme circumstances.

MATH 1502 SYLLABUS (Revised)

SPRING 2005

Course Number:	Math 1502 C3, C4, C5
Course Name:	Calculus II
Lecture Time:	MWF 10:05–10:55 a.m.
Lecture Room:	Ford Environmental Science and Technology Building, Room L1255
Professor:	Dr. Christopher Heil Office: Skiles 260 Office Phone: (404) 894-9231 Email Address: `heil@math.gatech.edu`
Office Hours:	WF 3:30-4:30 p.m., and by appointment
Web site:	`http://www.math.gatech.edu/~heil`
Contacting me:	I encourage you to contact me at any time by email. I try to check email daily and to respond to questions quickly. Please don't be afraid to set up other appointment times if you are having trouble getting in touch with me.
Recitation Time:	TuTh 10:05 a.m.–10:55 a.m.
TAs and Room:	C3: A. Cakmak, Skiles 254 C4: K. Chen, Skiles 202 C5: L. Snyder, Skiles 169
Textbook 1:	*Calculus*, by Salas, Hille, and Etgen
Material:	L'Hopital's Rule and Improper Integrals (Sections 10.5–10.7) Infinite Series (Sections 11.1–11.4) Taylor Polynomials and Taylor Approximation (Sections 11.5–11.6) Power Series (Sections 11.7–11.8) Numerical Integration (Sections 8.7–8.9)
Textbook 2:	*Elementary Linear Algebra* by Spence, Insel, and Friedberg
Material:	Matrices, Vectors, and Systems of Linear Equations (Chapter 1) Matrices and Linear Transformations (Chapter 2) Determinants (Chapter 3) Subspaces and Their Properties (Chapter 4) Eigenvalues, Eigenvectors, and Diagonalization (chapter 5) Orthogonality (Chapter 6)

Academic Dishonesty. All students are expected to comply with the Georgia Tech Honor Code. Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students. The institute honor code is available at

`http://www.deanofstudents.gatech.edu/Honor`

Grading. We will have four homework assignments, three in-class exams, a quiz, and a final exam.

4 Homeworks	10 points each
Quiz 1	20 points (10 points + 10 bonus points)
Exam 1	40 points
Exam 2	40 points
Exam 3	40 points
Final Exam	80 points
TOTAL	250 points

Letter grades will be based on your accumulated points at the end of the semester, according to 90%, 80%, 70%, 60% cutoffs (although I may adjust the cutoffs downward at the end of the semester, depending on class distribution):

225–250	A
200–224	B
175–199	C
150–174	D
0–149	F

At the end of the course, I'll evaluate the class distribution and decide if a curve is needed. I'll only curve *down* from the above cutoffs, not up.

Midterm Grades. You will receive a midterm grade of S (satisfactory) or U (unsatisfactory). This just gives you some idea of where you stand in the course. The midterm grade is just for your benefit, it has no impact on your final grade.

Homework. Homeworks will consist of problems selected from the book or problems that I make up. Assignments will be posted on the course web site. A subset of the problems will be selected for grading. Homeworks must be NEATLY written on the FRONT SIDE of the page only, and must be STAPLED. You must SHOW WORK neatly and completely in order to receive credit. Homeworks are due at the BEGINNING of class on the announced due date, and late homeworks will not be accepted.

You are allowed to work together with other students on the homework, as long as you each INDEPENDENTLY WRITE UP YOUR OWN SOLUTIONS. You are also allowed (and encouraged) to ask me questions, although you should try to think about the problems before asking. I strongly encourage you to work extra problems from the book on your own and will post a list of recommended problems on the course website.

Exams. The exams test UNDERSTANDING as well as problem solution skills. The tentative dates for the exams are:

Exam 1	Thursday, February 10 (in class)
Exam 2	Thursday, March 10 (in class)
Exam 3	Thursday, April 7 (in class)
Final Exam	Friday, May 6, 2:50 p.m.–5:40 p.m.

The exams are closed-book and closed-notes, except that you will be allowed to bring one 8.5x11 sheet of notes to each exam. The final is comprehensive.

Makeup exams are given only in extraordinary circumstances.

1502- Calculus II (Fall 2010)

Course Information (*return to main page* )

- ***Training exercises*** 

- ***Course Outline***

Topic	Text Sections	# Hours
L'Hospital's Rule and Improper Integrals	11.5-11.7 in S.H.&E.	3
Taylor Polynomials and Taylor Approximation	12.6-12.7 in S.H.&E.	3
Infinite Series I, II,	12.1-12.5 in S.H.&E.	6
Power Series	12.8-12.9 in S.H.&E.	3
Numerical Integration & ODE	8.7 in S.H.&E.	1
Introduction to Vectors and Matrices I, II,	1.1-1.6 in C2	6
Systems of Linear Equations & Row Reduction I, II,III,	2.1-2.6 in C2	6
Kernel, Image, Subspaces, & Least Squares I, II, III,	3.1-3.4 in C2	4
Orthogonal Projections, Gram-Schmidt, QR Factorization,	3.5-3.7 in C2	3
Determinants & Cross Product, I, II	4.1-4.3 in C2	3
Eigenvalues, Eigenvectors & Diagonalization I, II,	5.1-5.5 in C2	6

- ***Textbooks***
  - Salas, Hille & Etgen (SH&E), *Calculus*, 10th edition, Sections 8 & 10-11
  - Eric Carlen, Maria Conceição Carvalho, (C2)
    Linear Algebra from the beginning, Freeman & Co, New-York 2007

- ***Reading***

Students are strongly advised to read the sections taught each week in advance, following the weekly Calendar .

- ***Help***

(*return to main page* )

Students can get helped in several ways
1)- By attending the lectures and the recitation classes. It is highy recommended to attend all of them for a full understanding of the material offered. In addition pop quizzes can be offered at any time without warning.
2)- By devoting 90 minutes per day to reading the material of the week, working at the homeworks and training on exercises.
3)- By attending the office hours either with the instructor or with the TA's or both.
4)- Students can get help at Math Lab Mondays through Thursdays from 11 AM until 5 PM in Skiles 257 : some TA's are available to answer questions addressed by students.
5)- By asking the Instructor for a personal appointment and discussing his/her personal problems.

- ***Homework***

Students are strongly advised to do the homework every week (*see weekly Calendar*).
The homework will NOT be graded.

Students needing some feedback are advised to turn it in on the due date to

the TA and to ask the TA to grade it. The homework will serve as a basis for the weekly quizzes, the 1-hour tests and the final exam.

- ***Pop Quizzes***

There should be 12 quizzes during the Fall semester, approximately once a week
(*see the weekly Calendar*).

The pop quiz can be offered at any time either in recitation classes or during the lectures.
It will be a test on the homework that is due on the beginning of the week.

Each quizz contains 5 short questions, each graded 0,1 or 2, similar to the ones addressed in the homework of the week. The questions are similar to the ones offered in the homework that is to be turned in on the beginning of the week.

Only the 10 best quizzes will be counted in the final grade. An absence on a quizz will be graded 0 (zero).
No made up quiz will be offered for ANY reason UNLESS a mistake is made by the instructor or a TA: the two quizzes discounted can be used by students for planned or unplanned absences or to improve their average.

In case of absence to more than two quizzes for serious reason (such as disease, injury,...), the student must show the documents justifying the absence to the Instructor. Then the grade counted for the quiz in the final will be obtained as the average of the quizzes attended.

50 min. Tests

There will be TWO 50 min. tests during the Fall semester.

➡ *#1 : Wednesday September 22, section D 9:05-9:55am*
section K 11:05-11:55am
➡ *#2 : Monday November 8, section D 9:05-9:55am*
section K 11:05-11:55am

An absence to the test will be graded 0 (zero). However if the absence is justified (disease, injury, ...), the student must bring the documents justifying the absence to the Instructor. Then a made up Test will be offered.

- ***Final Exam***

➡ *Section D Thursday December 16, 8:00-10:50am Howey L3,*
Section K Tuesday December 14, 2:50-5:40am Howey L4

An absence to the final be graded 0 (zero). However if the absence is justified (disease, injury, ...), the student must (i) warn the instructor as soon as possible, in any case before the end of the exam week, (ii) bring the documents justifying the absence to the Instructor. Then the student will receive an I (incomplete) and will be responsible to take action during the following semester to complete his/her curriculum.

#2 : Monday November 8, section D 9:05-9:55am

section K 11:05-11:55am

An absence to the test will be graded 0 (zero). However if the absence is justified (disease, injury, ...), the student must bring the documents justifying the absence to the Instructor. Then a made up Test will be offered.

- ***Final Exam*** *Section D Thursday December 16, 8:00-10:50am Howey L3,*
  Section K Tuesday December 14, 2:50-5:40am Howey L4

An absence to the final be graded 0 (zero). However if the absence is justified (disease, injury, ...), the student must (i) warn the instructor as soon as possible, in any case before the end of the exam week, (ii) bring the documents justifying the absence to the Instructor. Then the student will receive an I (incomplete) and will be responsible to take action during the following semester to complete his/her curriculum.

Final Grade		*Grade Distribution:*
Quizzes	25%	90% for an A
50-min.	35%	80% for a B
Tests	40%	70% for a C
Final		60% for a D

Math 1502 - Calculus II (for biologists).

Time and location

Lectures: Tuesdays and Thursdays from 12:05pm to 1:25pm in Coolege of Computing room 16 (Instructor: Goldsztein).

Recitation SB1: Mondays and Wednesdays from (Instructor:). Office hours: in , phone: , e-mail:

Recitation SB2: Mondays and Wednesdays from (Instructor:). Office hours: in , phone: , e-mail:

Lecture Instructor

Guillermo Goldsztein
Skiles Building, Room 112
Phone: 894-2286
e-mail: ggold@math.gatech.edu
Office hours: Mondays 11am to 12pm

Text Books

Modeling the dynamics of Life (second edition) by Adler.

Grading policy

There will be four one hour exams during recitation. The date of the exams will be announced with a least one week notice.

There won't be make up tests. Talk to Goldsztein with plenty of time in advance if you have a unavoidable conflict that will force you to miss more than one exam.

There will be four 10 to 15 minutes quizes. The dates of the quizes will be announced the recitation previous to the quiz. There won't be make up quizess. Talk to Goldsztein if you have a unavoidable conflict that will force you to miss more than two quizes.

The final (comprehensive) will be on TBD.

The grade will be computed as follows: Exams = 60% (15% each). Quizes = 10% (2.5% each), Final = 30%.

If you get 90% or more, you get an A. If you get 80% to 89% you get a B at least. If you get 70% to 79% you get a C at least. If you get 60% to 69% you get at least a D. 59% or below may result in an F.

SYLLABUS

Calculus II (Math 1502 K) Spring 2008, Georgia Tech

Lecture	Recitations
T TH 1:35-2:55 Skiles 169	M W 2:05-2:55 pm Skiles 202

Instructor

Professor Mohammad Ghomi

- *Office:* Skiles 203
- *Office hours:* T Th 3-4
- *Email:* ghomi@math.gatech.edu
- *Course Web Page:* www.math.gatech.edu /~ghomi/Classes/Math4441

Teaching Assistant

Daniel Griffin

- *Office:* Skiles 230
- *Office Hours:* M W 11-12
- *Email:* gtg398x@mail.gatech.edu

Course Description

This first half of this class is a continuation of Calculus I (Math 1501), and the second half is an introduction to Linear Algebra. The main Calculus topics are: Taylor Polynomials, L'Hopital's Rule, Infinite Series, Numerical Integration, and ODE's. The main Linear Algebra topics are Matrices, Row reduction, Kernel, Image, Gram-Schmidt, Determinants, Eigenvalues and Diagonalizations.

Prerequisites

Math 1501

Textbooks

Calculus, *One and Several Variables*, by Salas, Hille, and Etgen (Tenth Edition); John Wiley and Sons, Inc., 2007, and *Linear Algebra* by Carlen and Carvalho, W. H. Freeman & Sons, Inc. 2007.

Lecture and Reading Schdule

Topic	Text Sections	Lectures
Numerical Integration	8.7 in S.H.&E.	1
ODE's	9.1-9.2 in S.H.&E.	1
Sequences, L'Hospital's Rule and Improper Integrals	11.1-11.7 in S.H.&E.	3
Infinite Series	12.1-12.5 in S.H.&E.	2
Taylor Polynomials and Taylor Approximation	12.6-12.7 in S.H.&E.	2
Power Series	12.8-12.9 in S.H.&E.	2
Introduction to Vectors and Matrices	1.1-1.6 in C^2	4
Systems of Linear Equations & Row Reduction	2.1-2.6 in C^2	4
Kernel, Image, Subspaces, & Least Squares	3.1-3.4 in C^2	2
Orthogonal Projections, Gramm-Schmidt, QR Factorization	3.5-3.7 in C^2	2

Determinants & Cross Product	4.1-4.3 in C^2	2
Eigenvalues, Eigenvectors & Diagonalization with Applications	5.1-5.5 in C^2	4

Homework

There will be homewark assignments due every Wednesday. *Late Homeworks will not be accepted*.

Assignments

#	Due Date	Problems
1	Jan 16	8.7) 2, 4, 8, 11, 12, 14, 16, 18, 26, 28.
2	Jan 23	9.1) 2, 4, 8, 10, 36, 41, 42; 9.2) 2, 4, 14, 16, 21; 11.1) 4, 8, 28, 30, 34; 11.2) 2, 6, 10, 14, 61, 63.
3	Jan 30	11.3) 4, 6, 10, 20, 22, 28, 58; 11.4) 2, 6, 8, 10, 14, 24, 34, 41, 44.
4	Feb 6	11.5) 2, 12, 48, 49, 54; 11.6) 2, 6, 10, 18, 28, 57; 11.7) 2, 8, 24, 41.
5	Feb 13	12.1) 4, 12, 22; 12.2) 4, 8, 14, 20, 23, 24; 12.3) 2, 4, 8, 10, 20, 49; 12.4) 2, 6, 8, 16, 20, 26.
6	Feb 20	12.5) 2, 4, 6, 8, 10, 14, 32, 34, 40, 42; 12.6) 2, 6, 10, 14, 16, 18, 22, 26, 28, 46, 50; 12.7) 2, 4, 24, 26.
7	Feb 27	12.8) 2, 4, 6, 8, 12, 14, 18, 20, 44; 12.9) 2, 4, 8, 12, 24, 32, 34, 38, 44, 54.
8	Mar 5	1.2) 2, 4, 6, 10, 11, 12, 19, 20; 1.3) 3, 5, 10, 11, 12, 13a, 15, 16, 20.
9	Mar 12	1.4) 1, 2, 4, 9, 11, 13, 14, 15; 1.5) 1, 3, 5, 6, 13, 16, 17, 18; 1.6) 4, 5.
10	Mar 26	2.1) 1, 2, 5, 15; 2.3) 2, 4, 6, 9, 10, 14; 2.4) 1, 2, 3, 5, 14, 15.
11	Apr 2	2.5) 1, 3, 5, 10, 11; 3.1) 1, 3, 6, 7, 10; 3.2) 1, 2, 5.
12	Apr 9	3.3) 1, 2, 6, 9, 10, 11, 12, 14, 15; 3.4) 1, 3, 6, 7, 8, 10, 12.
13	Apr 16	3.5) 3, 4, 5; 3.6) 1, 3, 4, 9; 3.8) 1, 2, 3,7.
14	Apr 23	4.1) 1, 2, 4; 4.2) 1, 2, 3, 4; 4.3) 1, 3, 9, 12.
15		5.1) 1, 2, 3; 5.2) 1, 2, 3.

Attendance Policy

All students are required to attend all lectures and recitations.

Grading

The grade is based on homeworks (15%); two midterms (20% each) on Wednesdays Feb 13, and April 2; and a final exam (45%) on Thursday, May 1, 11:30-2:20.

How to Succeed in this class

Attend all lectures and recitations, and start working on each homework assigment well in advance of its due date.

Harrell's 1502 syllabus

Mathematics 1502 Calculus II Course Description

Spring, 2001 (MWF 3:00) in Physics Lecture Room 1, in the Howey Building
Recitations will take place in various rooms in the Skiles Building on Tuesday and Thursday, as detailed on OSCARWeb.

Instructor: Evans Harrell, Office Skiles 134, 894 4312, harrell@math.gatech.edu
Instructor's office periods: WF 4:15-5:00, Skiles 134
Assistants:

- Gianluigi Del Magno
- Anup Dileep Mehendale
- Alexander Panoutsakos
- Jose Renom
- Zixia Song

Class web page: http://www.math.gatech.edu/~harrell/1502/ It is your responsibility to consult the web page regularly for information about the class. The web page will contain the definitive information about the class, such as homework assignments. The web page will also give you e-mail contact with the instructor and the teaching assistant, and we will do our best to respond to your questions. Electronic mail has swollen to flood proportions, so please do not be upset if the response is delayed or brief. Information of use to the whole class may be posted on our faq list. The faq may be the quickest way to answer routine questions.

Required texts:
Salas, Hille, and Etgen, *Calculus*, some parts of Hubbard and Hubbard, *Vector Calculus*, and on-line materials, for example the vector calculus page at mathphysics.com.

Description: Calculus is not only essential in engineering; it is one of mankind's greatest intellectual achievements. After thousands of years of confusion on the part of philosophers, Newton, Leibniz, and Euler created the tools for understanding the infinite and the infinitesimal. In this second term there are two themes: mathematics in more than one dimension, and getting good numbers. Since we are on the threshold of the new millennium, we shall do all this with the aid of computers.

Grading and requirements: There will be in-term tests on Friday, 26 January; Friday, 16 February; Friday, 16 March; and Friday, 6 April. There will also be a final exam, of course. Homework will not be systematically collected, but instead clones of the homework problems will appear on quizzes, given most Thursdays. Your quiz average will be based on the best ten quizzes. In addition, Prof. Harrell may announce occasional opportunities for extra credit.

Students' grades will depend on the following quantity:

$$(T1^2 + T2^2 + T3^2 + T4^2 + Q^2 + F^2)^{1/2} + EC + F/2\ ,$$

where the components of this formula correspond to the ingredients mentioned above, after scaling so that all of them except EC = extra credit total have a common median. There will be **no opportunities for make-up tests after the fact**. As you may be able to work out, the vector grade system largely compensates for a bad or missed test due to illness or other personal situations.

We do not have a fixed idea of how many students will get A's, B's, etc., but will decide the grade divisions after review of individual tests, including the final exam. Normally, the median grade in Georgia Tech calculus classes is a C+.

Mathematical software. The use of mathematical software will be a required element of the class, but advanced use of Maple will not be expected. Early in the term there will be a recitation devoted to Maple for those for whom it is new.
If you are currently a user of Mathematica, Matlab or other software competing with Maple, you will not be compelled to switch, but the class will not systematically support these alternatives.

Calculators and tests. No restrictions will be placed on the use of calculators that do *elementary* mathematics on the tests. **Calculators that can do calculus symbolically shall not be brought to tests**. No credit will be given on tests for a correct answer without the intermediate steps.

Readings. The schedule of reading will be posted on the 1502 assignments page. The subject matter covered will be as follow:

- Taylor polynomials
- Power series and numerical integration
- Elementary differential equations
- Introduction to matrices, row reduction and solution of linear systems
- Inverses, linear independence, kernel and range
- Eigenvectors, eigenvalues and geometric topics.

On-line materials

This course will benefit from many on-line materials, which you can access with the software in the student software suite, especially Netscape, Maple, and Acrobat. There is a home page for the class at http://www.math.gatech.edu/~harrell/1502/, and there are many other useful things at the School of Mathematics page for on-line resources: http://www.math.gatech.edu/~bourbaki/, as well as at the vector calculus page at mathphysics.com

Scientists and Engineers today do mathematics differently than in the past. Complicated calculations can be done with software such as Maple, and there are many powerful items on the World Wide Web to help you both to learn mathematics and to do it effectively. Georgia Tech is one of the leaders in incorporating these developments into our calculus classes, with Maple, Mathematica, Java, and other software. We hope that you will use software and the Internet to help with calculations and learning, but will always remember that real understanding requires you to exercise your mind as well as your fingers.

Course Syllabus for MATH 1502, Sections K1-K4, Spring 2012

Instructor: Dr. Christopher Heil

Office: Skiles 109

Office Phone: 404-894-9231

Email: heil@math.gatech.edu (this is the best way to contact me)

Office Hours: Wed 1:30-2:30, Thurs 3:30-4:30 and by appointment

Instructor's Web Page: http://www.math.gatech.edu/~heil/

The class T-Square page: https://t-square.gatech.edu

Lecture Meeting Time: Tues/Thurs 1:35-2:55 p.m. **Lecture Room:** Howey (Physics) Room L1

Recitations: Mon/Wed 10:05-10:55 a.m.

- Section K1 (Geehoon Hong) meets in Skiles 271.
- Section K2 (Zihao Li) meets in Skiles 255.
- Section K3 (Ankita Mehotra) meets in Skiles 154.
- Section K4 (Rebecca Maust) meets in Skiles 170.

GT PLUS Sessions:

Kate Polhemus is our GT PLUS leader. She will lead group study sessions Sundays 7-8 and Tuesdays 8-9 in CULC 262.

Texts

- Salas, Hille, and Etgen, *Calculus*, 10th edition.
- Lay, *Linear Algebra and Its Applications*, 4th edition.

We will cover Chapters 11 and 12 in Salas and most of Chapters 1-6 in Lay.

Websites

- T-Square: https://t-square.gatech.edu
- MyMathLab: http://www.coursecompass.com

MyMathLab Course Information:

- Homework for the Calculus portion of the course will be piloted through MyMathLab using the Thomas *Calculus* book (you do not need to purchase this text, as lectures will be from the Salas text). Since we are piloting this program, Pearson is providing access codes to that text for FREE. Please see the sign-up information posted on the “Resources” tab of T-Square.
- When we switch to the Lay text, you will need to purchase a code for MyMathLab in order to complete the on-line homework assignments. MyMathLab comes with an entire electronic version of the textbook; thus, it is not necessary to purchase a hardcopy of the text unless you prefer to do so. You may purchase a MyMathLab code either from the bookstore or on-line at coursecompass.com, or

You may purchase a MyMathLab code either from the bookstore or on-line at coursecompass.com, or if you prefer to own a hardcopy of the text, the bookstore offers a package with a loose-leaf version of the textbook that is less expensive than purchasing the text and code separately.

- ***When signing up for MyMathLab, it will be immensely helpful to me (for grading purposes) if you will set your STUDENT ID to your USERID for the GT system (i.e., your T-Square USERID, as in "gburdell3", etc)***

- Our course IDs on MyMathLab are as follows:
  - **MyMathLab Course ID for the Calculus Portion (access code is free):** heil71873
  - **MyMathLab Course ID for Lay (access code must be purchased):** heil70297

GRADING SYSTEM

Homework: Homework will be assigned on-line and will consist of exercise problems on MyMathLab. You are expected to understand **all** homework problems for the tests. In order to increase the effectiveness of recitation, you should attempt the problems **before** the weekly recitation sections. Exercises on MyMathLab will be due every Monday and Thursday at 11:59 PM (except during class recesses). At least one homework grade will be dropped. **No late homework will be accepted**.

Participation: Class participation will be based on your attendance in the lectures and participation in the recitations. We will use TurningPoint clickers to measure lecture attendance, beginning on the second week of classes. Clickers may be purchased from the bookstore, or you may subscribe to the i-Phone application instead by visiting: http://www.turningtechnologies.com/audienceresponseproducts/responseoptions/responseware/. You MUST register your clicker ID on the "TurningTechnologies" tab on our t-square page, or your clicker responses will not be recorded in the gradebook. In addition, your participation in the recitation sections will be measured by your effort in completing practice problems during most of the recitation classes. The recitation grade will count as extra credit and will be added onto the final average, affecting all borderline grades.

Tests: Six 50-minute tests will be administered during the term. Test dates will be given on the following Wednesdays:

January 25, February 8, February 22, March 7, March 28, and April 18.

No books, notes, graphing or programmable calculators, cell phones, or other electronic devices are allowed during the tests. If a student has a disability that may require accommodation on tests, please make an appointment with the ADAPTS office to discuss any special needs, as well as meeting individually with me.

Final Exam: The final exam will cover all course materials and will be administered on **Tuesday, May 1, 2:50-5:40 pm.** All students must take the final examination.

Grading Scale: Your final average will be computed as follows:

- Lecture Attendance: 5%
- Homework: 10%
- Tests (10% each, lowest dropped): 50%
- Final Exam: 35%

Total: 100% (plus up to 2% extra recitation points)

Grades will then be assigned based on the following scale:

- A: 90-100%
- B: 80-89%
- C: 70-79%

- C: 70-79%
- D: 60-69%
- F: <60%

It is possible that these cutoffs may be adjusted *downward* at the end of the course. The determination of the final cutoffs will be made after the final exams are graded.

Midterm grades will be assigned on **February 17**. A satisfactory grade will be assigned to all students with a midterm average of 70% or higher (based on the above weighting of grades).

CLASS POLICIES

- **Attendance**: You are expected to come **prepared** and actively participate in every lecture and recitation session. In the event of an absence, you are responsible for all missed materials, assignments, and any additional announcements or schedule changes given in class. Class disruptions of ANY kind will NOT be tolerated and may result in your removal from the classroom and loss of attendance/participation points for that day. Please show courtesy to your fellow classmates and instructor by adhering to the following class rules: turn off all laptops, cellular phones, i-pods, and pagers during class (and other electronic devices, unless being used for note-taking), come to class on time and stay for the entire class period, refrain from conversing with your fellow students, and put away any reading materials unrelated to the course.

- **Academic Dishonesty**: All students are expected to comply with the Georgia Tech Honor Code (the honor code can be found at http://www.osi.gatech.edu/plugins/content/index.php?id=46). Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students. Cheating includes, but is not limited to: using a calculator, books, or any form of notes on tests; using another person's clicker in lecture when that person is absent, or asking someone to use your clicker during lecture for you; copying directly from **any** source, including friends, classmates, tutors, or a solutions manual; allowing another person to copy your work; signing another person's name or having another person sign your name on an assignment; taking a test in someone else's name, or having someone else take a test in your name; or asking for a regrade of a paper that has been altered from its original form.

- **Calculators**: While you may need a calculator for help with some of the homework problems, only a simple, non-graphing, non-programmable calculator with elementary functions (i.e., a “dollar store” calculator) is allowed on the in-class tests.

- **Regrading of Papers**: If a problem on your test has been graded in error, you must submit a regrade request to me (not your TA!) **in writing,** along with your paper, no more than *one week* after the tests have been returned in class. Should you wish to have your paper regraded, *do not change or add to the work on your paper*! If you must write on your returned paper, be sure to write in a different color ink and clearly indicate what you have added. A regrade request can only be submitted if you have done something CORRECT on your test that has been marked as incorrect. You MUST check your answers with the solutions BEFORE submitting such a request.

- **Make-Ups**: In an emergency situation, I may allow a make-up test if I am notified **prior** to the exam and provided with a reasonable, **written confirmation** of your absence. Any make-ups must be completed before the corresponding test has been graded and returned to other students. If you will miss a test due to a university-sponsored event or athletics, please provide me with the official documentation in advance.

- **Additional Help**: Asking questions is a key to success! Please feel free to stop by my office hours or your TA's office hours whenever you have questions. In addition, free tutoring is available on a first-come/first-serve basis Monday-Thursday in the Math Lab, located in the tutoring center on the second floor of Clough Commons. We will also have a PLUS leader for this course who will hold sessions twice weekly (times TBA).

Fall 2009, Math 1502
Calculus II

Homework

Class information

- Class: Tuesdays and Thursdays 8:05AM -9:25AM
- Classroom: Howey (Physics) L4
- Class homepage: **http://people.math.gatech.edu/~kang/1502**

- Instructor : Sung Ha Kang
  - Email: kang at math.gatech.edu
  - Office: Skiles 223
  - Office hours: T TR 7:45AM (before class) in Howey L4,
    T TR 9:45AM-10:30AM Skiles 223 or by appointment (please send email)
- Recitations
  - Section B1: MW 8:05AM Skiles 170
    - TA: Thomas Parise
    - email: tparise830 at gatech.edu
    - Office hours : M 9AM-10AM Skiles 156, T 4-5PM Math Lab
  - Section B2: MW 8:05AM Skiles 202
    - TA: Alax Young
    - email: alex.young at gatech.edu
    - Office hours : F 10AM-11AM Skiles 156, M 11AM-12PM Math Lab
  - Section B3: MW 8:05AM Skiles 240
    - TA: Sarah Leggett
    - email: sleggett3 at gatech.edu
    - Office hours : M 11AM-12PM Skiles 156, TR 11AM-12PM Math Lab

Course information

- **the course syllabus** http://www.math.gatech.edu/course/math/1502

- Prerequisites: MATH 1501 Calculus I

- Course Description: Concludes the treatment of single variable calculus, and begins linear algebra; the linear basis of the multivariable theory. The first 1/3 of this course covers some chapters of single variable calculus not treated in Math 1501. The remaining 2/3 is an introduction to linear algebra, the theory of linear equations in several variables.

- **Textbook 1**: Calculus, One and Several Variables, by Salas, Hille, and Etgen (Tenth Edition); John Wiley and Sons, Inc., 2007
  Material:
  1. Taylor Polynomials and Taylor Approximation (section 12.6-12.7)
  2. L'Hospital's Rule and Improper Integrals (section 11.5-11.7)
  3. Infinite Series (section 12.1-12.5)
  4. Power Series (section 12.8-12.9)
  5. Numerical Integration and ODE's (section 8.7, 9.1-9.3)

- **Textbook 2**: Linear Algebra, From the Beginning by Carlen and Carvalho, W. H. Freeman & Sons, Inc. 2007
  Material:
  1. Introduction to Vectors and Matrices (section 1.1-1.6)
  2. Row Reduction (section 2.1-2.5)
  3. Inverses (section 2.4-2.5)
  4. Linear Independence (section 3.1-3.4)
  5. Kernels and Images, Least Squares (section 3.5-3.8)
  6. Determinants and Volume (section 4.1-4.3)
  7. Eigenvalues and Diagonalization (section 5.1-5.6)

Course Grade

- **Academic Dishonesty:** All students are expected to comply with the Georgia Tech Honor Code . Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students.

- Homework: Students are strongly encouraged to solve all the homework right after each classes.

- Quiz and Attendance (20 points): There will be quizzes during the recitation sections which will be based on the homework materials. No make up quizzes are allowed, but lowest one score will be dropped. Attendance will be checked during the lectures.

- Exams and Final (20 points each): There will be three one-hour exams (20 points each) and a final (20 points).
  No Make-up exams: in general there will be no make-up exams. In case of serious illness, doctor's note is required, and for student organization excused absences, your adviser's notice is required no later than two weeks prior to the date of the event.

- **Grade** Letter grades will be based on your accumulated points at the end of the semester, according to above 90 points A, above 80 points B, above 70 points C, above 60 points D and F below 60 points.

Course Schedule and Homework

- Sep 2 W **Quiz 1**
- Sep 16 W **EXAM 1**
- Oct 7 W **Quiz 2**
- Oct 21 W **EXAM 2**
- Nov 11 W **Quiz 3**
- Nov 23 M **Exam 3**
- Dec 8, 09 T **FINAL EXAM** 8:00am - 10:50am

COURSE SYLLABUS

MATH 1502, CALCULUS II

SPRING 2012

Instructor: Klara Grodzinsky
Office: Skiles 232, 404-894-4397 (or leave a message at 404-894-2700)
Office Hours: Tuesdays, 9:30-10:30 AM; Wednesdays, 10:30 AM-12:00 PM; and by appointment
E-mail: klarag@math.gatech.edu
Web Page: http://www.math.gatech.edu/~klarag

Course Title: Calculus II

Texts: Salas, Hille, and Etgen, *Calculus*, 10th ed. and Lay, *Linear Algebra and Its Applications*, 4th ed. We will cover chapters 9, 11 and 12 in Salas and most of chapters 1-6 in Lay.
Meeting Times: Lecture, Tuesdays and Thursdays 12:05-1:25 PM, Physics L1
Recitation, Mondays and Wednesdays 12:05-12:55 PM
Section F1 (Keith Belcher) meets in Skiles 169.
Section F2 (Yating Wang) meets in Skiles 170.
Section F3 (Kelly Cheng) meets in Skiles 256.
Section F4 (Jiho Lee) meets in Skiles 268.
Section F5 (Stephanie Gamble) meets in Skiles 271.
Section F6 (Viet Chau) meets in IC 215.

Course Websites: T-square, https://t-square.gatech.edu; MyMathLab, http://www.coursecompass.com; Piazza (question/answer platform): www.piazza.com

MyMathLab Course Information: Homework for the Calculus portion of the course will be piloted through MyMathLab using the Thomas *Calculus* book (you do not need to purchase this text, as lectures will be from the Salas text). Since we are piloting this program, Pearson is providing access codes to that text for FREE. Please see the sign-up information posted on the "Resources" tab of t-square. When we switch to the Lay text, you will need to purchase a code for MyMathLab in order to complete the on-line homework assignments. MyMathLab comes with an entire electronic version of the textbook; thus, it is not necessary to purchase a hardcopy of the text unless you prefer to do so. You may purchase a MyMathLab code either from the bookstore or on-line at coursecompass.com, or if you prefer to own a hardcopy of the text, the bookstore offers a package with a loose-leaf version of the textbook that is less expensive than purchasing the text and code separately. ***When signing up for MyMathLab, it will be immensely helpful to me (for grading purposes) if you will set your STUDENT ID to your USERID for the GT system (i.e., your T-square USERID, as in "gburdell3", etc).*** Our course IDs on MyMathLab are as follows:

MyMathLab Course ID for the Calculus Portion (access code is free): grodzinsky16179

MyMathLab Course ID for Lay (access code must be purchased): grodzinsky46502

GRADING SYSTEM

HOMEWORK: Homework will be assigned on-line and will consist of exercise problems on MyMathLab. You are expected to understand **all** homework problems for the tests. In order to increase the effectiveness of recitation, you should attempt the problems **before** the weekly recitation sections. Exercises on MyMathLab will be due every Monday and Thursday at 11:59 PM (except during class recesses). At least one homework grade will be dropped. **No late homework will be accepted**.

PARTICIPATION: Class participation will be based on your attendance in the lectures and participation in

PARTICIPATION: Class participation will be based on your attendance in the lectures and participation in the recitations. We will use TurningPoint clickers to measure lecture attendance, beginning on the second week of classes. Clickers may be purchased from the bookstore, or you may subscribe to the i-Phone application instead by visiting: http://www.turningtechnologies.com/audienceresponseproducts/responseoptions/responseware/. You MUST register your clicker ID on the "TurningTechnologies" tab on our t-square page, or your clicker responses will not be recorded in the gradebook. In addition, your participation in the recitation sections will be measured by your effort in completing practice problems during most of the recitation classes. The recitation grade will count as extra credit and will be added onto the final average, affecting all borderline grades.

TESTS: Six 50-minute tests will be administered during the term. Tests dates are on the following Wednesdays: **January 25, February 8, February 22, March 7, March 28, and April 18**. No books, notes, graphing or programmable calculators, cell phones, or other electronic devices are allowed during the tests. If a student has a disability that may require accommodation on tests, please make an appointment with the ADAPTS office to discuss any special needs, as well as meeting individually with me.

FINAL EXAM: The final exam will cover all course materials and will be administered on **Tuesday, May 1,** from 11:30 am-2:20 pm. All students must take the final examination.

GRADING SCALE

Your final average will be computed as follows:

Assignment	***Option 1***	***Option 2***
Lecture Attendance	5%	5%
Homework	10%	10%
Tests (10% each)	60%	50% (drop lowest)
Final Exam	25%	35%
Total:	100%	100%
Recitation:	up to 2% extra	up to 2% extra

In all cases, you will receive the higher of the two average options.

Do not expect any deviation from the following scale:

A: [90%, 100+%]; **B**: [80%, 90%); **C**: [70%, 80%); **D**: [60%, 70%); **F**: [0%, 60%).

Midterm grades will be assigned on **February 17.** A satisfactory grade will be assigned to all students with a midterm average of 70% or higher (based on the above weighting of grades).

CLASS POLICIES

ATTENDANCE: You are expected to come **prepared** and actively participate in every lecture and recitation session. In the event of an absence, you are responsible for all missed materials, assignments, and any additional announcements or schedule changes given in class. Class disruptions of ANY kind will NOT be tolerated and may result in your removal from the classroom and loss of attendance/participation points for that day. Please show courtesy to your fellow classmates and instructor by adhering to the following class rules: turning off all laptops, cellular phones, i-pods and pagers (and other electronic devices, unless being used for note-taking) during class, coming to class on time and staying for the entire class period, refraining from conversing with your fellow students, and putting away any reading materials unrelated to the course.

ACADEMIC DISHONESTY: All students are expected to comply with the Georgia Tech Honor Code

ACADEMIC DISHONESTY: All students are expected to comply with the Georgia Tech Honor Code (the honor code can be found at http://www.osi.gatech.edu/plugins/content/index.php?id=46). Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students. Cheating includes, but is not limited to: using a calculator, books, or any form of notes on tests; using another person's clicker in lecture when that person is absent, or asking someone to use your clicker during lecture for you; copying directly from **any** source, including friends, classmates, tutors, or a solutions manual; allowing another person to copy your work; signing another person's name or having another person sign your name on an assignment; taking a test in someone else's name, or having someone else take a test in your name; or asking for a regrade of a paper that has been altered from its original form.

CALCULATORS: While you may need a calculator for help with some of the homework problems, only a simple, non-graphing, non-programmable calculator with elementary functions (i.e., a "dollar store" calculator) is allowed on the in-class tests.

REGRADING OF PAPERS: If a problem on your test has been graded in error, you must submit a regrade request to me (not your TA!) **in writing,** along with your paper, no more than *one week* after the tests have been returned in class. Should you wish to have your paper regraded, *do not change or add to the work on your paper*! If you must write on your returned paper, be sure to write in a different color ink and clearly indicate what you have added. A regrade request can only be submitted if you have done something CORRECT on your test that has been marked as incorrect. You MUST check your answers with the solutions BEFORE submitting such a request.

MAKE-UPS: In an emergency situation, I may allow a make-up test if I am notified **prior** to the exam and provided with a reasonable, **written confirmation** of your absence. Any make-ups must be completed before the corresponding test has been graded and returned to other students. If you will miss a test due to a university-sponsored event or athletics, please provide me with the official documentation in advance.

ADDITIONAL HELP: Asking questions is a key to success! Please feel free to stop by my office hours or your TA's office hours whenever you have questions. In addition, free tutoring is available on a first-come/ first-serve basis Monday-Thursday in the Math Lab, located in the tutoring center on the second floor of Clough Commons. We will also have a PLUS leader for this course who will hold sessions twice weekly (times TBA).

COURSE OUTLINE FOR MATH 1502

(1) COURSE OBJECTIVES AND TOPICS OF STUDY:

This course is aimed at developing proficiency, with an understanding of the ideas behind the methods, in the following specific subjects:

Taylor Approximation
Infinite Series and Power Series
Numerical Integration
Linear Algebra, the theory of linear functions and equations in several variables
The first three topics complete the coverage of single variable calculus, and the fourth, on which we shall spend roughly two thirds of the course is the basis of the calculus of functions of several variables, as well as a fundamental subject in its own right.

(2) TEXTS:

The textbook for the Calculus part is *Calculus* , by Salas, Hille and Etgen, Tenth edition. This part of the course covers selected parts of Chapters 8, 9, 10, and all of 11 with some additional material covered on the web notes. In the remainder of the course we will work with the text `Linear Algebra With Applications' by David Lay, Fourth edition.
You will also need a Turning Point Clicker from Turning Technologies. Many of you will have used these in Physics and Chemistry already. If you don't have one, these can be obtained from the bookstores.
Clicker registration:
You must register your clicker on T Square at the beginning of the course, and use the same clicker throughout the semester. Permission to change your clicker used must be sought, and approved. Submitting answers in class with an unregistered clicker will result in a score of zero.

(3) COURSE CALENDAR:

The first six to seven weeks are spent on Calculus, and the remaining weeks on Linear Algebra. Sections are covered in the order of the course notes on the web:
CALCULUS:
Sections 12. 6 and 12.7: Taylor Polynomials;

Sections 11.5 and 11.6: L'Hospital's Rule and other indeterminate forms;

Section 11.7: Improper Integrals;

Section 11.7: Improper Integrals;

Sections 12.1 and 12.2: Infinite Series;

Section 12.3: The Integral and Comparison Tests;

Section 12.4: The Ratios and Roots Tests;

Section 12.5: Absolute and Conditional Convergence;

Sections 12.8 and 12.9: Power Series;

Sections 9.1 and 9.2: First order differential equations;

Section 8.7: Numerical Integration.

LINEAR ALGEBRA
Chapter 1: Linear equations in Linear Algebra

Chapter 2: Matrix Algebra

Chapter 3: Determinants

Chapter 5: Eigenvalues and Eigenvectors.

Chapter 6: Orthogonality and Least Squares

Chapter 7: Symmetric Matrices and Quadratic Forms

MATH 1502 - CALCULUS II G1 - G5 SPRING 2012

1. Lecturer: Doron Lubinsky
Monday, Wednesday, Friday in Howey Physics L2, from 13:05 to 13:55
Consulting Times: Monday, Wednesday and Friday in Skiles 237A from 11:05 to 11:55

Recitation sections:

(CRN 21895) G1: Ruoting Gong
Tuesday, Thursday, in Skiles 269 from 14:05-14:55
Consultation Times: Thursday 16:00-17:00 in Skiles 145.
Math Lab: Wednesday 16:00-17:00

(CRN 21104) G2: John Yurchesyn
Tuesday, Thursday, in Skiles 254 from 14:05-14:55
Consultation Times: Tuesday, Thursday from 12:00-14:00 in Howey Physics S06

(CRN 21100) G3: Amey Kaloti
Tuesday, Thursday, in Skiles 169 from 14:05-14:55
Consultation Times: Mondays, Wednesdays 09:00-10:00
Math Lab: Tuesday 13:00-14:00

(CRN 22284) G4: Jinyong Ma
Tuesday, Thursday, in Skiles 170 from 14:05-14:55
Consultation Times: Thursday, 16:00-17:00 in Skiles 127A

(CRN 21105) G5: James Krysiak
Tuesday, Thursday, in Skiles 255 from 14:05-14:55
Consultation Times: Tuesdays, from 13:00-14:00 in Skiles 142
Math Lab: Thursday, 13:00-14:00

PLUS Lecturer: Alex Edson
Tuesdays, Thursday 19:00-20:00 pm in CULC 280

2. Contact Details

Following are the office locations, phone numbers, and e-mail addresses:

Doron Lubinsky,
Skiles 237A
404-385-2133
lubinsky@math.gatech.edu

1) Ruoting Gong

Office: Skiles 145
Phone: 404-894-6446
e-mail: rgong@math.gatech.edu

2) John Yurchesyn

Office: Howey Physics S06
Phone:
e-mail: jyurchesyn3@gatech.edu

3) Amey Kaloti

Office:
Phone:
e-mail: ameyk@math.gatech.edu

4) Jinyong Ma

Office:
Phone:
e-mail: jma@math.gatech.edu

5) James Krysiak
Office: Skiles 142
Phone:
e-mail: jkrysiak@math.gatech.edu

6) PLUS lecturer: Alex Edson
e-mail: aedson3@gatech.edu

3. Material to be covered and required books/ technology

To obtain a syllabus, and the rough course calendar, click on Syllabus.
The textbooks are:
1) **Salas/Eitgen/Hille: Calculus in One and Several Variables, Tenth Edition, Wiley (first six or seven weeks)**

2) **Lay: Linear Algebra and its Applications, Fourth edition, Addison Wesley/ Pearson (last seven or eight weeks)**
3) You will also need a Turning Technologies (Turning Point) clicker/personal response system. Many of you will have used these in Physics and Chemistry already. If you don't have one, these can be obtained from the bookstores.
Clicker registration:
You must register your clicker on T Square at the beginning of the course, and use the same clicker throughout the semester. Permission to change your clicker used must be sought, and approved. Submitting answers in class with an unregistered clicker will result in a score of zero for that clicker test.

4. Lectures and Office Hours
Lectures will be Mondays, Wednesdays, and Fridays, in Howey Physics L2, from 13:05-13:55.
Office hours for D Lubinsky will be Mondays, Wednesdays and Fridays, in Skiles 237A, from 11:05-11:55. Please prepare your questions before coming to my office.

My e-mail address is lubinsky@math.gatech.edu

5. Online Course Material
My typed lecture notes are available below. They are based closely on the textbooks, but geared to what is actually lectured in class. My practice tests, as well as homework, homework solutions, and test solutions, will be posted in due course.

6. Tests/ Assignments/ Quizzes and Grading Policy
There will be three tests, three graded assignments, and a final exam. All tests will be written during recitation sections. We will have **occassional, unscheduled clicker quizzes** in class.
Tentative dates of tests:
Test 1: Thursday February 2
Test 2: Thursday March 1
Test 3: Thursday April 12
The **tentative** dates to hand in assignments:
Assignment 1: Tuesday January 31
Assignment 2: Tuesday February 28
Assignment 3: Tuesday April 10
The lowest test score will be dropped. The items are weighted as follows:
Average of two best tests: 40%
Average of three graded assignments: 20%
Final Exam: 35%
Clicker Score: 5%

All grades will be posted on T Square.

There will be no makeup tests under any circumstances. If more than one test is missed, the corresponding part of the final exam will be given a higher weight.

There will be no makeup tests under any circumstances. If more than one test is missed, the corresponding part of the final exam will be given a higher weight.
The final exam will be on Monday April 30, from 2:50pm to 5:40pm, according to the official school calendar.

7. Honor Code
Please review the Georgia Tech Honor Code. As noted above, you may discuss homework assignments with one another, but be sure that the work you hand in is your own. The examination will be closed book.

8. Dates that I shall be away from lectures
I shall be away for the following lectures:
Monday February 27
Wednesday February 29
Friday April 13
Arrangements will be announced in class about replacements for these lectures.

9. Spring 2012 Exercises and Assignments

Click on here to access the list of exercises and assignments, including those exercises that must be handed in for grading. This link will be updated periodically.

10. Material to study for Tests

Click on here to see what to study for individual tests. This link will be updated periodically.
All tests will be closed book (no textbooks, calculators, or handwritten or typed notes will be allowed).

11. Lecture Notes

The typed notes from which I lecture are below, in the order that they will be covered:
Sections 12.6 and 12.7: Taylor Polynomials

Sections 11.5 and 11.6: L'Hospital's Rule and other Indeterminate Forms

Section 11.7: Improper Integrals

Sections 12.1 and 12.2: Infinite Series

Section 12.3: The Integral and Comparison Tests

Sections 12.4 and 12.5: Ratio and Root Tests; Absolute and Conditional convergence

Summary of Series tests

Sections 12.8 and 12.9: Power Series

Sections 9.1 and 9.2: Differential Equations

Section 8.7: Numerical Integration

Linear Algebra Notes

Please note that this is the first time I have taught from Lay, and these notes are new, so there will be some need for revision. I shall be grateful if you inform me of misprints/ mistakes.

Chapter 1

Chapter 2

Chapter 3

Chapter 5

Chapter 6

Chapter 7

Some links to external help, especially for infinite series

- Dr. Lewin's Math Movies and Online Help Site (see Chapter 9)
- Dr. Carlson's Series Site
- Dr. Bogacki's tutorials for series
- Wolfram Mathworld's Series Site

MATH 1502 - CALCULUS II C1 - C5 SPRING 2012

1. Lecturer: Doron Lubinsky
Monday, Wednesday, Friday in Howey Physics L3, from 10:05 to 10:55
Consulting Times: Monday, Wednesday and Friday in Skiles 237A from 11:05 to 11:55

Recitation sections:

(CRN 20915) C1: Jinyong Ma
Tuesday, Thursday, in Skiles 271 from 10:05-10:55
Consultation Times: Tuesday, 16:00-17:00 in Skiles 127A
Mathlab: Thursdays, 16:00-17:00

(CRN 20916) C2: Tri Nguyen
Tuesday, Thursday, in Skiles 270 from 10:05-10:55
Consultation Times: 8:00-10:30 and by appointment

(CRN 20905) C3: Peter Ralli
Tuesday, Thursday, in Skiles 254 from 10:05-10:55
Consultation Times: Monday, Wednesday, 16:00-17:00 in Skiles146B

(CRN 20543) C4: Ningtao Cheng
Tuesday, Thursday, in Skiles 170 from 10:05-10:55
Consultation Times: Tuesday, Thursday 12:00-13:30 in Skiles 230
Math Lab: Thursday 11:00-12:00 in CULC 278

(CRN 26451) C5: Ruoting Gong
Tuesday, Thursday, in Skiles 202 from 10:05-10:55
Consultation Times: Tuesday 16:00-17:00 in Skiles 145.
Math Lab: Wednesday 16:00-17:00

PLUS Lecturer: Anne McPeters

Sunday, 16:00-17:00, Wednesday 18:00-19:00 in CULC 262

2. Contact Details

Following are the office locations, phone numbers, and e-mail addresses:

Doron Lubinsky,
Skiles 237A
404-385-2133
lubinsky@math.gatech.edu

1) Jinyong Ma
Office: Skiles127A
Phone:
e-mail: Jma@math.gatech.edu

2) Tri Nguyen
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3) Peter Ralli
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Phone: 404-385-7497
e-mail: pralli3@math.gatech.edu

4) Ningtao Cheng
Office: Skiles 230
Phone:
e-mail: chengningtao@gatech.edu

5) Ruoting Gong
Office: Skiles 145
Phone: 404-894-6446
e-mail: rgong@math.gatech.edu

6) PLUS lecturer: Anne McPeters
email: amcpeters3@gatech.edu

3. Material to be covered and required books/ technology

To obtain a syllabus, and the rough course calendar, click on Syllabus.
The textbooks are:

1) **Salas/Eitgen/Hille: Calculus in One and Several Variables, Tenth Edition, Wiley (first six or seven weeks)**
2) **Lay: Linear Algebra and its Applications, Fourth edition, Addison Wesley/ Pearson (last seven or eight weeks)**
3) You will also need a Turning Technologies (Turning Point) clicker/personal response system. Many of you will have used these in Physics and Chemistry already. If you don't have one, these can be obtained from the bookstores.
Clicker registration:
You must register your clicker on T Square at the beginning of the course, and use the same clicker throughout the semester. Permission to change your clicker used must be sought, and approved. Submitting answers in class with an unregistered clicker will result in a score of zero for that clicker test.

4. Lectures and Office Hours
Lectures will be Mondays, Wednesdays, and Fridays, in Howey Physics L3, from 10:05-10:55.
Office hours for D Lubinsky will be Mondays, Wednesdays and Fridays, in Skiles 237A, from 11:05-11:55. Please prepare your questions before coming to my office.

My e-mail address is lubinsky@math.gatech.edu

5. Online Course Material
My typed lecture notes are available below. They are based closely on the textbooks, but geared to what is actually lectured in class. My practice tests, as well as homework, homework solutions, and test solutions, will be posted in due course.

6. Tests/ Assignments/ Quizzes and Grading Policy
There will be three tests, three graded assignments, and a final exam. All tests will be written during recitation sections. We will have **occassional, unscheduled clicker quizzes** in class.
Tentative dates of tests:
Test 1: Thursday February 2
Test 2: Thursday March 1
Test 3: Thursday April 12
The **tentative** dates to hand in assignments:
Assignment 1: Tuesday January 31
Assignment 2: Tuesday February 28
Assignment 3: Tuesday April 10
The lowest test score will be dropped. The items are weighted as follows:
Average of two best tests: 40%
Average of three graded assignments: 20%
Final Exam: 35%
Clicker Score: 5%

All grades will be posted on T Square.

There will be no makeup tests under any circumstances. If more than one test is missed, the corresponding part of the final exam will be given a higher weight.
The final exam will be on Monday April 30, from 11:30am to 2:20pm, according to the official school calendar.

7. Honor Code
Please review the Georgia Tech Honor Code. As noted above, you may discuss homework assignments with one another, but be sure that the work you hand in is your own. The examination will be closed book.

8. Dates that I shall be away from lectures
I shall be away for the following lectures:
Monday February 27
Wednesday February 29
Friday April 13
Arrangements will be announced in class about replacements for these lectures.

9. Spring 2012 Exercises and Assignments

Click on here to access the list of exercises and assignments, including those exercises that must be handed in for grading. This link will be updated periodically.

10. Material to study for Tests

Click on here to see what to study for individual tests. This link will be updated periodically.
All tests will be closed book (no textbooks, calculators, or handwritten or typed notes will be allowed).

11. Lecture Notes

The typed notes from which I lecture are below, in the order that they will be covered:
Sections 12.6 and 12.7: Taylor Polynomials

Sections 11.5 and 11.6: L'Hospital's Rule and other Indeterminate Forms

Section 11.7: Improper Integrals

Sections 12.1 and 12.2: Infinite Series

Section 12.3: The Integral and Comparison Tests

Sections 12.4 and 12.5: Ratio and Root Tests; Absolute and Conditional convergence

Summary of Series tests

Sections 12.8 and 12.9: Power Series

Sections 9.1 and 9.2: Differential Equations

Section 8.7: Numerical Integration

Linear Algebra Notes

Please note that this is the first time I have taught from Lay, and these notes are new, so there will be some need for revision. I shall be grateful if you inform me of misprints/ mistakes.

Chapter 1

Chapter 2

Chapter 3

Chapter 5

Chapter 6

Chapter 7

Some links to external help, especially for infinite series

- Dr. Lewin's Math Movies and Online Help Site (see Chapter 9)
- Dr. Carlson's Series Site
- Dr. Bogacki's tutorials for series
- Wolfram Mathworld's Series Site

Calculus II, Math 1502
Course Syllabus
Spring Semester 2001

Instructor: Andrzej Swiech
Lectures: MWF 10-11, Howey-Physics L1
Office: Skiles 266
Office Hours: M 2-3 PM, WF 1-2 PM
Phone: (404) 894-2705
E-mail: swiech@math.gatech.edu

Course web page: http://www.math.gatech.edu/∼swiech/1502spring01.html

Recitations:
C1, Faisal Alturki, TR 10-11, Skiles 202,
C2, Albert Kern, TR 10-11, Skiles 240,
C3, Milena Khlabystova, TR 10-11, Skiles 140,
C4, Becky Upchurch, TR 10-11, Skiles 254,
C5, Ilya Lavrik, TR 10-11, Skiles 271,

Math Lab: SKILES 257

Textbooks: Salas, Hille and Etgen, **Calculus, one and several variables**, 8th edition, John Wiley and Sons, Inc., 1999 (SH&E below), together with the supplement on linear algebra **Primer for linear algebra** by Demko (D below), and **Vector calculus, linear algebra and differential forms**, Prentice Hall, 1999 by Hubbard and Hubbard (H&H below).

Course Description: The course covers four major subjects: Taylor approximation, infinite series and power series, numerical integration, linear llgebra and the theory of linear functions and equations in several variables. It is aimed at developing proficiency, with an understanding of the ideas behind the methods in the above subjects. The first three topics complete the coverage of single variable calculus, and the fourth, on which we will spend roghly two thirds of the course, is the basis of the calculus of functions of several variables. Here is the detailed description of the topics to be covered:

1. Taylor Polynomials and Taylor Approximation, Sections 11.5-11.6 in SH&E, 3 lectures.
2. L'Hospital's Rule and Improper Integrals, Sections 10.5-10.7 in SH&E, 3 lectures.
3. Infinite Series, Sections 11.1-11.4 in SH&E, 3 lectures.
4. Power Series, Sections 11.7-11.8 in SH&E, 3 lectures.
5. Numerical Integration and Differential Equations, Sections 8.7-8.9 in SH&E, 3 lectures.
6. Introdution to Vectors and Matrices, Sections 1.1-1.4 in H&H, and 3.6 in D, 6

lectures.
7. Row Reduction, Sections 2.1-2.2 in H&H, 3 lectures.
8. Inverses and Elementrary Matrices, Section 2.3 in H&H, 3 lectures.
9. Linear Independence, Sections 2.4 in H&H, and 3.1-3.3 in D, 3 lectures.
10. Kernels and Images, Least Squares, Sections 2.5 in H&H, and 3.5 in D, 3 lectures.
11. Rotations, Reflections and Projections, Chapter 4 in D, 3 lectures.
12. Eigenvalues and Diagonalization, Sections 5.1-5.4 in D, 6 lectures.

Grading: There will be three tests (February 2, March 2, and April 6), homework assignments, one computer assignment and the final exam. Your final score will be scaled to 100% and calculated according to the following rule: Homework will count for 10% of the final score, computer assignment for 5%, each test for 15%, and the final exam for 40%. You will get an A, respectively B, C, and D if your final score is greater than 85%, respectively 70%, 55%, and 40%. These requirements may be lowered if the overall average score of the class is low (i.e. your grade may get curved up). Improvement will be taken into account in assigning final grades.

Computer project: You will be required to do a computer project using MAPLE (or another computer algebra system if you prefer to do so). The project will be done in groups of three or four people. Further details about the project will be given later. It will be due on April 20. The School of Mathematics Computing Lab is located in Skiles 156 and is open to all students. The software available in the Computing Lab includes Mathematica 4.0, Maple V Release 4, and Matlab 5.3.0.10183.

Homework: Homework will be collected every other week on Thursdays in recitations and will be graded by the TA. You are required to do all assigned problems however only selected problems will be graded. Please check the news and announcements section of the course web page for the precise information about what is due and when. Late homework will not be accepted however the worst homework score will be dropped so you can even miss one assignment. Among the assigned problems you will find computer exercises. Please do not turn them in as there will be a separate computer assignment.

Free tutorial help is available in the Math Lab, Skiles 257. The Math Lab is staffed by graduate and senior teaching assistants. Please check the Math Lab web page http://www.math.gatech.edu/resources/undergrad/mathlab.html for the current hours.

On-line materials for Calculus II can be found at http://www.math.gatech.edu/~swiech/1502spring01.html, and http://www.math.gatech.edu/~carlen/1502. Please visit these web pages.

Math 1502 Calculus II (F Sections), Fall 2009

Schedule: 12:05 pm - 1:25 pm TR	Classroom: Howey(Physics) L2
Office: Skiles 102A	Phone: 404-894-4750
Email: zengch@math.gatech.edu	Webpage: **www.math.gatech.edu/~zengch**
Office hours: 1:40 pm - 2:55 pm TR	Tentative final exam schedule: Thu. 12/10, 11:30 pm --2:20 pm.

Syllabus

Instructor: Chongchun Zeng

Prerequisites: **MATH 1501**

Overview: Concludes the treatment of single variable calculus, and begins linear algebra; the linear basis of the multivariable theory. The first 1/3 of this course covers some chapters of single variable calculus not treated in Math 1501. The remaining 2/3 is an introduction to linear algebra, the theory of linear equations in several variables.

Participation: Attendence in classes is mandatory. Students are expected to read the material before each lecture. It is suggested that you start to work on homework problems right after they are assigned.

Textbook: Calculus, One and Several Variables, by Salas, Hille, and Etgen (Tenth Edition); John Wiley and Sons, Inc., 2007 [referred to as S.H.&E. in the table below]; *Linear Algebra, From the Beginning* by Carlen and Carvalho, W. H. Freeman & Sons, Inc. 2007 [referred to as C.C. in the table below].

Material:

Topic	Text Sections	Estimated hours
Taylor Polynomials and Taylor Approximation	12.6-12.7 in S.H.&E.	3
L'Hospital's Rule and Improper Integrals	11.5-11.7 in S.H.&E.	3
Infinite Series	12.1-12.5 in S.H.&E.	3
Power Series	12.8-12.9 in S.H.&E.	3
Numerical Integration and ODE's	8.7, 9.1-9.3 in S.H.&E.	3
Introduction to Vectors and Matrices	1.1-1.6 in C.C.	6
Row Reduction	2.1-2.5 in C.C.	5
Inverses	2.4-2.5 in C.C.	2
Linear Independence	3.1-3.4 in C.C.	4
Kernels and Images, Least Squares	3.5-3.8 in C.C.	4
Determinants and Volume	4.1-4.3 in C.C.	3
Eigenvalues and Diagonalization	5.1-5.6 in C.C.	6
		45

Grades: **1 final exam 40%, 2 midterm 18% each, 8 quizzes 3% each. (More quizzes might be given but only the best 8 scores will be counted.)**

- *Exams:* The final will be 2 hours and 50 minutes. The 2 midterms of 50 minutes each will be given during recitation sessions in the second half of Sept. and late Oct., respectively. They will be announced at least 8 days in advance. All the exams are "closed book" and "closed notes". You will be allowed to bring with you a one page (8.5 X 11, both sides) "cheat sheet" with anything you want written on it. Please write your exam solutions in **ink** and **circle** the final answer of each problem in a box with no corections inside. Writing exams in pencil would automatically forfeit your right to argue for credits after the exam is given back to you. There will be **no** make-up for a missed exam, except under provable impossibility to attend the exam.
- *Quizzes*: The quizzes of roughly 15--20 minutes each will take place in the recitation sessions. They may not be announced in advance. The quizzes are open-book and open-notes.
- *Homework (not required):* Although homework will not be collected, the importance of exercises can never be over-emphasized. Some problems in the exams or quizzes will be chosen from the assigned exercises. Homework will be assigned at the end of each lecture and then put on this webpage in the below. You may discuss the homework problems with other students *in this class*, but you are encouraged to complete the homework independently. Some of these problems will be discussed in the recitation sessions.
- *Letter grade:* in general, the letter grade will be given based on the total score (quizzes + midterms + final) in a curved fashion with the following exceptions:

1. Total score 90/100 or above will always be an **A**
2. Total score 60/100 or above will always be a **C** or higher.

Homework assignments:

- Assigned on Tue. 8/18: Sec. 12.6 3, 8, 10, 16, 19, 23, 30, 33, 45
- Assigned on Tue. 8/25: Sec. 12.7 1, 5, 8, 11, 22, 28; Sec. 11.5 3, 4, 5, 6, 21, 22, 43, 44, 46
- Assigned on Thu. 8/27: Sec. 11.6 5, 6, 7, 9, 17, 20, 25, 26, 39, 40
- Assigned on Tue. 9/1: Sec. 11.7 3, 4, 9, 13, 20, 29, 30, 31, 34, 37; Sec. 12.1 1, 6, 8, 13, 16, 18, 23
- Assigned on Thu. 9/3: Sec. 12.2 2, 4, 7, 10, 11, 12, 17, 21, 23, 27
- Assigned on Tue. 9/8: Sec. 12.3 1, 5, 6, 14, 15, 17, 23, 31, 37, 39, 40; Sec. 12.4 1, 4, 9, 10, 15, 16, 23, 24, 37, 40
- Assigned on Thu. 9/10: Sec. 12.5 2, 3, 4, 10, 11, 25, 28, 34, 35, 40
- Assigned on Tue. 9/15: Sec. 12.8 2, 5, 6, 15, 18, 37, 38, 42, 43, 46; Sec. 12.9 6, 8, 9, 12, 15, 18, 24, 29, 36, 39, 42, 45
- Assigned on Thu. 9/17: Sec. 8.7 2, 3, 7, 8, 12, 17, 20
- Assigned on Tue. 9/22: Sec. 9.1 3, 4, 8, 9, 12, 24, 27, 35, 38, 40; Sec. 9.2 3, 4, 10, 11, 14, 15, 18, 21
- Assigned on Thu. 9/24: Sec. 9.3 3, 4, 9, 10, 21, 22, 25, 27; Sed. 1.1 (switch book from now on) 1, 2, 4, 6, 7, 9, 11, 14
- Assigned on Tue. 9/29: Sec. 1.2 2, 3, 6, 8, 14, 15, 16, 17, 20, 23, 28, 29

- Assigned on Tue. 9/29: Sec. 1.2 2, 3, 6, 8, 14, 15, 16, 17, 20, 23, 28, 29
- Assigned on Thu. 10/8: Sec. 1.3 2, 3, 6, 8, 11, 12, 14, 15, 21, 26
- Assigned on Tue. 10/13: Sec. 1.4 1, 2, 4, 5, 6, 7, 9, 10, 11, 16; Sec. 1.5 2, 4, 6, 7, 9, 10, 12, 14, 15, 18, 23, 26
- Assigned on Thu. 10/15: Sec. 1.6 2, 3, 6, 8; Sec. 2.1 2, 3, 6, 7, 10, 11, 13, 14, 15, 17, 22, 26, 27
- Assigned in the week of 10/19: Sec. 2.2 1, 2, 3, 4; Sec. 2.3 2, 4, 6, 7, 8, 10, 11, 12, 13, 15
- Assigned on Tue. 10/27: Sec. 2.4 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16
- Assigned on Tue. 11/3: Sec. 2.5 2, 4, 5, 6, 8, 9, 10, 12, 16, 18, 22, 25
- Assigned on Thu. 11/5: Sec. 3.1 2, 3, 4, 6, 7, 8, 10, 12
- Assigned on Tue. 11/10: Sec. 3.2 1--8
- Assigned on Thu. 11/12: Sec. 3.3 2, 3, 4, 6, 7, 8, 10, 11, 12, 14, 16; Sec. 3.4 2, 3, 4, 6, 7, 8, 10, 14, 16, 18, 19, 20, 23
- Assigned on Thu. 11/19: Sec. 3.5 1--7; Sec. 3.6 2, 3, 4, 6, 8, 9, 10, 11, 12
- Assigned on Tue. 11/24: Sec. 3.7 1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 15
- Assigned on Tue. 12/1: Sec. 3.8 2, 3, 4, 6, 7, 8