Math 1106 Calculus for the Life and Social Sciences Version 2
Spring 2015

Instructor:
Lecturer: Dr. Allen Back, 211 Malott, 255-4629, ahb2@cornell.edu.
Meets TuTh 10:10 in Malott 228 Bache Auditorium

T.A.’s:
Sections 201 and 202: Sukhum Charoenkajonchai
sc453@cornell.edu.
Section 201: Tu/Th 12:20 in RCK 112.
Section 202: Tu/Th 1:25 in RCK 112.
Sections 203 and 204: Rinald Murataj
rm757@cornell.edu.
Section 203: Wed/Fri 9:05 in MRL 111.
Section 204: Wed/Fri 10:10 in MRL 111.
Sections 205 and 206: Dylan Peifer
djp282@cornell.edu.
Section 205: Wed/Fri 12:20 in RCK112.
Section 206: Wed/Fri 1:25 in RCK103.

Going to your own TA’s office hours would be better, but you are also welcome at the office hours of the other TA’s.

Office Hours:
Dr. Back: Monday 3:45-4:45, Tuesday 12-1, Wednesday 2:45-3:45, Thursday 2:45-3:45 as well as by appointment.

Sukhum Charoenkajonchai: TBA and by appointment (if you can’t make the scheduled times) in Malott 218.

Rinald Murataj: TBA and by appointment (if you can’t make the scheduled times) in Malott 218? or Rhodes 657?

Dylan Peifer: TBA and by appointment (if you can’t make the scheduled times) in Malott 218.

Course Web Page:

http://www.math.cornell.edu/~web1106/index.html

Some materials from lecture will be posted there, but we will try not to unintentionally facilitate non-attendance at lectures.
Starting during the end of the second week, we will also be using the Math Department Moodle site to post homework and sample exam solutions. Everyone enrolled in the course at that time will have a course Moodle account automatically created for them.

Short Description:
Math 1106 is an introduction to differential and integral calculus, partial derivatives, and elementary differential equations. Examples from biology and the social sciences are often used. Since the course is not intended as a prequel to more rigorous Calc 2 and Calc 3 courses, the emphasis is on adding to a student’s understanding and capabilities rather than intricate computational techniques that might represent basic survival skills in more advanced Math courses.

Thus the content of Math 1106 is significantly different from an AP Calculus AB course. Our course is broader, but shallower and less algebraically intricate at many points. If you already have had such course, we don’t recommend this one. But what you have learned will probably help you with about half of Math 1106.

We expect students to regularly attend lectures and sections in the course.

Textbook:

*Calculus with Applications* by Lial, Greenwell, & Ritchey,

A student solution manual is also available.

It is a good idea to read the relevant portions of the text before they are discussed in class.

Add/Drop and Changing of Sections:
A Math Department page on this (with specific references to our course) is at:

[http://www.math.cornell.edu/Courses/add-drop.html](http://www.math.cornell.edu/Courses/add-drop.html)

In particular, only the procedures described there can potentially be of assistance if you need help in changing the electronic record of which section you are in. Faculty in the Math Department have no control over such things.

It is against Math Department policy, but when you have a truly exceptional reason to be electronically enrolled in one section but attend another: *If there is physical room in the section you need to attend AND both TA’s involved agree, it may be possible to switch attendance in this fashion.* But this won’t help if you need the electronic record of your enrollment changed in order to register for another course.

Grading:
At the end of the term we will assign grades out of 600-700 points based approximately on each of two prelims 100 points, final exam 200 points, section grade 150 points, and lecture quizzes somewhere between 50 and 150 points. There are no predefined percentage cutoffs on letter grades, nor are there any quotas about how many A’s, B’s, and C’s there will be in the class. Don’t worry if your TA seems to be a harder or easier grader - section grades will be equalized among sections according to how that section as a whole did on prelims.
The section grade will be based on class participation, quizzes, interaction with your TA, and the quality (not just correctness) of your homework writeups. Attendance is required and will likely be recorded by daily signup sheets or some other method your TA may prefer. We understand things can occasionally come up, but if you don’t regularly attend and participate in your section, you should expect a low section grade, with a significant impact on the letter you receive in Math 1106. This holds even if your exam scores are high. Taking a course at Cornell is an experiential thing; the purpose of exams is not simply to certify a level of technical skill.

There will be a number of brief unannounced quizzes in lecture. They won’t emphasize difficult subtleties and we’ll try to make them accessible to anyone keeping up with the class.

Lecture quiz grades out of 10 will generally be 4, 6, 8, or 10 according to:

10 - Essentially Correct  Might have minor errors in algebra or arithmetic if much is involved.
8 - Substantially Correct
6 - Partially Correct  Missed some major aspect of what was needed.
4 - Some Try
2 - Blank but Quiz Taken

My general approach to exams is usually to favor somewhat challenging non-rote learning questions, but be generous in interpreting (letterwise) the results. Exams (mostly with solutions) from 2012 and 2013 are at the course website, but prelim topics and levels vary greatly from semester to semester, so these will just be a general guide. I do try hard to make sure the exams are “fair” in terms of what a student might reasonably expect they are responsible for. When prior exposure to an example or approach in lecture (rather than the textbook) might, for example, confer a major advantage for a student in being able to complete an exam problem, we will be glad potentially to include it on an exam. (Lectures will be a better indication of what’s likely to show up on exams than a close reading of the textbook.)

Each homework will be graded out of 20 points. Six of these points will reflect a (quick) holistic evaluation of your paper – likely mostly being based on how much you completed in a reasonably written-up way. The other 14 points will be based on correctness (partial credit possible) of a few selected problems. Unfortunately TA’s don’t remotely have time to grade all your homework problems. Check the solutions on Moodle to see how you’ve done on other problems.

In computing homework grades, your lowest homework score will be dropped.

Don’t copy solutions from another student or a solution manual. There has been a rising problem of people copying from online and other sources. For this reason, on most days homework is collected, one or two of the assigned problems or similar ones will be given as a short in-class quiz. There are no makeup quizzes, but we will drop your lowest quiz.
Your homework is a document that another person has to read. TA’s and readers are not obliged to read unreasonably messy or unstapled papers!

There will be no makeups on the quizzes but every TA will keep a Grading Notes File where full excuses and mitigating explanations on quizzes, attendance, etc. will be recorded. If e.g. you are sick and miss class for that reason, please let your TA know (include an email as well so the TA can most easily keep track) and your TA will record your explanation. Explanations based on sickness, etc. will obviously be easier for us to accept if they are occasional and restricted to compelling situations. “I had to prepare without break for an Organic Chemistry exam” may have some elements of near literal accuracy, but is not a valid excuse for failing to meet your much less demanding Math 1106 responsibilities.

This is not a proof-oriented class, but you may be asked for simple computation based arguments or other explanations on exams. (Sometimes, these are exactly what mathematicians refer to as “proofs.”) When not too technical, we will often be interested in the “why” of things as well as the computational routines needed for certain tasks.

Evening Prelim Dates: (Exams are from 7:30 to 9:00)
1. Thursday, February 19 in RCK201.
2. Tuesday, March 24 in RCK201.
3. Tuesday, April 28 has been reserved for us as an evening prelim but we don’t anticipate using that exam date.

Please check the prelim/final dates in your other courses and let us know (email to your TA and to Dr. Back) by Wednesday 2/4 if there are conflicts. Small time adjustments will sometimes be possible in the event of conflict with other university scheduled evening prelims and finals, but there will in general be no make-up exams. In the event of sickness, relevant portions of the final will be used to assign a substitute for the missing prelim grade.

If you have conflicts with any religious holidays or observances or if you have been approved for extended-time or special condition exams (for approval, contact Cornell Student Disability Services at http://sds.cornell.edu/), you need to notify your instructor and Dr. Back by email also during the first two weeks.

Homework:
The homework is a very important part of the course. No matter how well you think you understand the material presented in class, you won’t really learn it until you do the problems. You are free to devise whatever strategy for learning the material that suits you best. This may involve collaboration with other students, but you must list all collaborators on your homework paper. We believe, however, that most people will get the maximum benefit from the homework if they try hard to do all the problems themselves before consulting others.

In any case, whatever you turn in should represent your own solution expressed in your own words, even if you arrived at this solution working with someone else. Remember, you are doing the homework in order to learn the material;
don’t try to defeat the purpose of it. Moreover, you will be graded both on the
effort demonstrated and on the correctness of your work.

Homework assignments will be generally due at your second recitation of the
week on Thursday or Friday. Late homework and electronic submissions are
not accepted. If you have a sickness or other compelling excuse for not handing
something in when it is due, please send your TA an email explaining and
this will be recorded in your TA’s Grading Notes File.

Homework papers should be stapled, with your full (first & last) name, netid,
section, and TA’s name clearly indicated. Make sure it is easy to see which
problem a solution refers to, and to find any particular problem which is being
graded. (Due to time constraints, only a few of the problems you hand in will
actually be graded.) Please write neatly so your TA does not get apoplexy.
Homework will be returned to you the next week. Some solutions will be posted
on the course website.

And, of course we expect your adherence and faithfulness to the Cornell Code
of Academic Integrity available e.g. at:

http://cuinfo.cornell.edu/Academic/AIC.html

Other Useful Dates:
1. Wed February 4 - last day to add classes.
2. Fri March 13 - last day to drop without petition or change grading to or from
   S/U. (Some sources report this date as Wed. March 18 . . .)
3. Fri April 17? - last day to drop with petition while receiving a W.

Is 1106 the right course for you?
If you are interested in a more rigorous course that prepares you for Calc 2, you
might want to take Math 1110. (Excellent performance in Math 1106 meets the
prerequisites for Math 1120, but Math 1110 will be much better at preparing you
for the level of difficulty of Math 1120.)

If you need to take a mathematics course but don’t need to take calculus, you
might want to take:

Math 1105 - Finite Mathematics for the Life and Social Sciences
Math 1300 - Mathematical Explorations
Math 1340 - Mathematics and Politics
Math 1350 - The Art of Secret Writing
Math 1710 - Statistical Theory and Application in the Real World or one of
   the similar courses in other departments.

If you have an AP score of 4 or 5 in AB Calculus, we do not recommend you
take this course. If you do decide to repeat material, perhaps for a good grade,
please be sure and regularly attend and work at this course.

Attendance and missed assignments:
Attendance is required for course credit. You should make every effort not to miss any classes and submit all the homework in a timely fashion. It is your responsibility to catch up with missed lectures. You are responsible for the announcements made in class, which may include changes to the syllabus.

**Resources:**
The staff of Math 1106 as well as the mathematics department offer the following out-of-class resources for students who feel they need additional help.

**Office Hours:** The instructors of the course welcome students to their office hours. These hours may be used to go over specific questions or exercises or for more general problems related to the course. The instructors want to get to know their students better, and office hours provide a useful vehicle for this.

**Tutoring:** Free tutoring is supplied by the Math Support Center on the second floor of Malott Hall. See

   http://www.math.cornell.edu/twiki/bin/view/MSC

for more information.

**Math 1006:** Math 1006 is a support course taught by Dr. Quincy Loney (qel2) meeting weekly that parallels Math 1106. Registering helps support this often much-appreciated course and also offers extensive additional support office hours possibilities.

(It is possible to attend support class meetings and exam review sessions without registering.)

The support course may be especially helpful if you appreciate a directed, step-by-step treatment of basic mathematical material. We will certainly explain in lecture what you need to approach basic problems, but tend to rely more on you developing a general understanding rather than a precise checklist.

**Have a great semester!**