MATH 104 – Talaska
Syllabus, Spring 2016

Basics

Instructor: Kelli Talaska, talaska@math.berkeley.edu
Class: 3 Evans Hall, Tuesdays and Thursdays, 12:30-2pm
Office Hours: 785 Evans Hall – Mondays 1:30-2:30pm, Tuesdays 2-3pm, Thursdays 2-3pm

Textbook: *Elementary Analysis: The Theory of Calculus*, by Ross, 2nd edition, ISBN:9781461462705.
Course Website: http://www.math.berkeley.edu/∼talaska/104.php

Content and style

This course will be an introduction to real analysis. As this is an upper division math course, there will be a heavy emphasis on writing clear and concise proofs. I also strongly believe in understanding lots of examples.

Topics from the course catalog: The real number system. Sequences, limits, and continuous functions. The concept of a metric space. Uniform convergence, interchange of limit operations. Infinite series. Mean value theorem and applications. The Riemann integral.

Grading

Grades will be assigned according to the following breakdown:
Homework and in-class assignments 20%
Midterm exam 35%
Final exam 45%

Exams

There will be two exams – a midterm and a final. The final will be cumulative, but have a heavier focus on material not covered on the midterm. Exam dates are NOT NEGOTIABLE, so do not make any plans conflicting with the exams. If you miss the midterm, your final exam will replace it; there will NOT be a makeup exam. If you do better on the final exam than on the midterm, I will replace your midterm grade with your final exam grade. If you miss the final exam for any reason other than an extreme and unpredictable emergency (with documentation), you will almost certainly fail the course.

Midterm (in class):
Thursday, March 17, 12:30-2pm

Final exam (location TBA):
Thursday, May 12, 3-6pm

Reading assignments and classwork

- Regular active participation is a very important part of this class. There will be a reading assignment before almost every class. I will sometimes provide a list of questions to help guide your reading. Easy reading check quizzes are fair game (only straightforward stuff, no tricks).
- Most classes, we will do some work individually or in groups, and it is important that you do the reading so you are ready to jump into these.
- **VERY IMPORTANT!!!** After each class, I will post a daily update on Piazza. This will include a quick summary of the day's topics, helpful notes about any common misconceptions or classic problems, reminders about reading assignments and anything unusual coming up, etc. If questions come up in class for which I need to think and get back to you, this is where I will address them – definitely remind me if I forget to answer one! It is your responsibility to check the daily updates regularly.

Homework

- There will be a homework set due almost every week, at the **beginning** of class on Thursday. Each problem set will have a few problems that are carefully graded – for these you will need to carefully write up solutions. There will also be a somewhat longer list of practice problems that you won't turn in. Exams are written assuming you have given serious thought to these problems.
- Late homework will not be accepted for any reason. However, you will be permitted to drop two homework scores.

Office hours and general advice

- Office hours are for ALL students in the course. If you are struggling, obviously you should come (and don't feel embarrassed – not everyone naturally thinks like an analyst). If you feel you are doing well, come and discuss problems with other students anyway; you will know the material much better if you have some practice explaining things to other people. (However, if you find this course way too easy, you should probably take H104 instead.)
- My best advice for doing well in this class is to find a study buddy or small study group and FREQUENTLY DISCUSS MATH WITH THEM.
- You should definitely discuss homework problems with other students! The best way to learn is to think hard about a problem on your own until you get really stuck or solve it, then ask someone else how they thought about it. However, when it comes to writing down your solutions, you must do this by yourself, **in your own words**, without looking at someone else's paper or any other source.
- I know it is very tempting to look up solutions online when you are stuck, but please don't, and certainly do not blindly trust a proof you find on the internet. For learning purposes, it is MUCH better to ask me for a hint to get you started, and besides, there are a lot of wrong proofs out there.

Contact information

- Please direct math and logistics questions to our Piazza site. Plan ahead and make sure you get your homework questions answered early in the week. I will check Piazza it frequently, but most likely, your classmates will answer questions even faster. Please feel free to discuss current homework assignments with each other on Piazza, but DO NOT post any complete write-ups for homework sets until after the due date.
- If you need to get in touch with me, come by my office during office hours or email me at talaska@math.berkeley.edu.
- My personal phone number is easy to find online, but DO NOT call or text me for any reason. I do not have an office phone.

Miscellaneous information

- If you will need special accommodations approved by the Disabled Students' Program, make sure you discuss these with me as soon as possible.
- Incomplete "I" grades are almost never given. The only justification is a documented serious medical problem or genuine personal/family emergency. Falling behind in this course or problems with workload in other courses are not acceptable reasons.
- Academic dishonesty will not be tolerated. Any such incidents will be reported to the appropriate authorities and will almost certainly result in you failing the course.
- It's important that you show respect for yourself and your classmates at all times. Come to class prepared and ready to participate. Be respectful when someone else is presenting. Do not take out computers or phones during class.
- Due to space and logistics reasons, no auditing is permitted.