Math 23b, Introduction to Proofs
Syllabus, Spring 2019

Instructor: Professor Ruth Charney, Charney@brandeis.edu
Office: 304 Goldsmith
Office hours: TBA

Textbook: A Discrete Transition to Advanced Mathematics, by B. Richmond and T. Richmond, American Mathematical Society

Grading:
  Homework 45%
  Class participation 10%
  Midterm 15% Wednesday, October 21 (tentative date)
  Final Exam 30% Wednesday, Dec 16, 6-9 pm

If you are a student with a documented disability and wish to have a reasonable accommodation made for you in this class, please submit the appropriate paperwork to me as soon as possible.

The purpose of this course is to develop your ability to read and write mathematical proofs. We will introduce basic concepts in logic and study techniques of proof as they arise in various areas of mathematics, beginning with the discrete (used in abstract algebra, number theory, combinatorics, etc.) and ending with the continuous (used in analysis, topology, etc.). Most classes will include some group discussions and activities. Therefore, attendance is important. Repeated absences will result in a reduction in your grade.

Math at this level is about finding your own methods to solve problems. Struggling with a problem is the best way to improve your understanding of the material. Be sure to spend time thinking about the homework problems on your own before discussing them with other students. Most important, once you have a solution, write it down in your own words without help from anyone. That is the only way to be sure that you understand it. You may not copy the written work of another student or from other sources such as the internet, or allow another student to copy your written work. What you submit should be written in your own words and reflect your own understanding of the solution.

This course satisfies the writing intensive requirement. The writing will be in the form of regular homework assignments. For this course, it is not sufficient to get the “right answer”; answers must also be well written, in full sentences, precise and comprehensible. Homework will be graded by graduate student TAs who will also hold office hours. Graders will not give credit for work that is illegible. If you cannot write legibly, then you will need to type your homework. (I recommend TeX for this.) After the homework is returned, you will have the opportunity to submit a revised version of some of the problems for additional points.

Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, homework, preparation for exams, etc.).