Math 55, Summer 2019

1 General Information

Instructor James Hagborg

Email `jhagborg@math.berkeley.edu`

Course Website `https://math.berkeley.edu/~jhagborg/N55`

Lectures M–F, 2pm–4pm, 3105 Etcheverry Hall

Office 842 Evans Hall

Office Hours Tu,Th,F; 11:30am–12:30pm

Required Text Kenneth Rosen. *Discrete mathematics and its applications: Math 55 University of California Berkeley.* Eighth edition. New York, NY: McGraw-Hill, 2019. ISBN: 9781260836530

2 Topics

The first part of the course builds the language of modern mathematics: logic, set theory, and writing proofs. The remainder of the course applies these ideas to specific topics: number theory, combinatorics, discrete probability, and graph theory, with more advanced topics as time permits. There is a detailed schedule of topics on the course webpage which will be updated as the class progresses.

3 Getting Help

Students are encouraged to use every resource available. This includes:

1. Asking and answering questions on Piazza (link on course webpage)
2. Going to office hours

3. Using the free tutoring at the SLC

4. Forming study groups with classmates

Students should only email the instructor directly for private matters.

4 Grading

4.1 Homework (30%)

Due dates Homework will be due twice a week, on Tuesdays and on Fridays, starting on Friday, June 28th. Homework will be submitted online by 11:30 p.m.

Expectations A major part of this course is learning to read and write mathematics, including proofs. A proof is a coherent argument, written in complete English sentences, explaining why some statement must be true. Unless stated otherwise, you must prove every claim you make.

In writing a proof, you will often need to try out several approaches before you find one that works. For this reason, I ask that you either (a) write up your final solutions *neatly* on a separate sheet of paper, or (b) type your solutions, using LaTeX or otherwise. For students who chose the latter, LaTeX templates will be provided for each assignment.

Online submissions You will submit homework by uploading a PDF to Gradescope. All of the libraries on campus provide free scanning; for a list see `http://www.lib.berkeley.edu/hours`.

You may re-upload your homework any number of times before the due date. If you are having technical trouble, email me, *with your submission attached, before the deadline*, and you will receive full credit.

Late/Drop Policy Late homework will not be accepted. However, the lowest two homework grades will be dropped.

4.2 Midterms (30%)

There will be two midterm exams, each worth 15%. Each exam will take place in class, and use the entire two-hour period.

The first exam will be on **Friday, July 12th** and will cover logic, set theory, elementary number theory, and induction. The second exam will be on **Friday, August 2nd** and will cover combinatorics and discrete probability.

Missed/Drop Policy There will not be any make-up midterms, but the lower of your two midterm scores will be replaced by your final exam score, provided this results in a grade increase.

4.3 Final Exam (40%)

The final exam will be in class on **Thursday, August 15th**, and will use the entire two-hour period. The exam will be cumulative.

5 Academic Honesty

While students are encouraged to discuss homework problems, your final solutions must be your own. Any form of cheating or plagiarism on any assignment or exam is strictly prohibited, and will lead to disciplinary action.

6 Disability Policy

Students requiring accommodations must contact the Disabled Students Program (DSP) office. See `https://dsp.berkeley.edu`.