MATH 61-02: DISCRETE MATHEMATICS

TUFTS UNIVERSITY DEPARTMENT OF MATHEMATICS
SPRING 2016

Professor: Moon Duchin (Moon.Duchin@tufts.edu)
Lectures: MWF from 1:30-2:20 (G block) in BP 2
Textbook: Richmond & Richmond, *A Discrete Transition to Advanced Math*
Office Hours: 11:30-12:30 WF and by appointment, BP 113
Midterms: Monday Feb 29 (in class) and Monday April 4 (open block)
Final Exam: Monday May 9, 12-2pm

OVERVIEW AND TOPICS

Discrete math is the study of isolated objects; for instance, the whole numbers. The core research topic related to this is *combinatorics*, the mathematical subfield connected to counting, arrangement, and various discrete structures such as graphs and algorithms. As the title of our textbook indicates, this course also serves as a bridge from lower-level courses into the major in Math or Computer Science. We will pay close attention to the development of proof techniques and you will have plenty of opportunity to refine your mathematical communication skills.

Planned coverage: almost all of the book (namely Chapters 1,2,4,5,6,7,8,10), supplemented by lots of deeper examples. The book is extremely approachable and should be thought of as a backstop for the course, but the lectures and homework will often go somewhat further than the text. I hope to explain connections to current research topics, including my own research.

Math 61 meets the following Learning Objectives: basic understanding of higher mathematics; written communication; problem solving skills.

ASSIGNMENT STRUCTURE

This course has one weekly problem set and occasional quizzes as needed. Typically HW will be due Mondays and returned Fridays and any quizzes will be on Wednesdays. There will be two midterms and a final, and there are no makeup exams. See http://math.tufts.edu/courses/examPolicy.htm for information on excused exam absences.

There is an *optional* project: a 1-2 page paper expanding on a topic from class.

Problem sets. Average of 5 problems per week from the text. Homework is due in the beginning of class to the front desk and no late HW will be accepted (though lowest 2 scores will be dropped). To be accepted, homework must have your name or identifying information at the top and must say whom you worked with.

Approximate score breakdown. Problem Sets (20%), Midterms (20% each), Final (30%), Project/Quizzes (10%)

There is absolutely no pre-determined grade cutoff for an A, B, etc. Typically, in my classes, 80% can earn an A, and I will be delighted to give A grades to everyone if that is appropriate. I will offer grade estimates after the first midterm so you know how you are doing.

General Course Policy

Academic integrity. You are encouraged to work together but your written work must be in your own words, and you must indicate working partners and other sources. Academic integrity is taken very seriously in this course; please refer to the Code of Conduct in the Student Handbook (`http://students.tufts.edu/student-affairs/student-life-policies/student-handbook`) to review University policy with respect to plagiarism and related issues.

Accessibility accommodations. We will gladly work to accommodate any disabilities brought to our attention. If you are requesting an accommodation due to a documented disability, please register with the Student Accessibility Services Office at the beginning of the semester. To do so, call 617-627-4539 to arrange an appointment.

Homework identifiers. Because homework is collected and returned in class and spends some time in mailboxes, you have the right to use a *unique identifier* instead of your name in order to protect your privacy. Your educational record is privileged information under the federal Family Educational Rights and Privacy Act (FERPA), and using your name as identifier means that you opt out of this guaranteed confidentiality with respect to homework assignments and scores.