

The tentative schedule for the course is below. It may be slightly modified as the course progresses.

Please note the sections in the textbook that correspond to each of the listed topics. In particular, unless otherwise mentioned, you will be responsible on the homeworks, quizzes, and final for any material in those sections, even if I do not cover it in class. The homework due Monday of week  $n$  will cover the material from week  $n - 1$ .

I will be out of town for a conference during the week of July 8th, during which there will be a substitute lecturer. I will provide more information about how this week will work as we get closer, such as about virtual office hours.

- Week 1. 6/17-6/21. *No class Wednesday, June 19.* Propositional logic (1.1, 1.3), predicates and quantifiers (1.4-1.5), rules of inference (1.6), proof techniques and proof writing (1.7-1.8), sets and set operations (2.1-2.2).
- Week 2. 6/24-6/28. Functions (2.3), sequences (2.4), cardinality (2.5), modular arithmetic (4.1), prime numbers (start 4.3).
- Week 3. 7/1-7/5. *No class Thursday, July 4.* Prime numbers and GCD (4.3), solving congruences, Chinese Remainder Theorem, and Fermat's Little Theorem (4.4). *Special topic in number theory if time permits (to be determined, will not be on exams).*
- Week 4. 7/8-7/12. *I will be gone this week.* Induction (5.1), strong induction and well-ordering (5.2), recursion (5.3, 2.4 briefly), counting basics (6.1), pigeonhole principle (6.2).
- Week 5. 7/15-7/19. *1-hour in-class midterm on Tuesday, 7/16. Review session Monday evening.* Permutations and combinations and binomial coefficients (6.3-6.5), inclusion-exclusion (8.5-8.6), start discrete probability theory (7.1).
- Week 6. 7/22-7/26. Discrete probability theory (7.1-7.4). Equivalence relations (9.1, 9.5)
- Week 7. 7/29-8/2. Partial orderings (9.6), graph theory basics and graph isomorphism (10.1-10.3), connectivity (10.4).
- Week 8. 8/5-8/9. Planar graphs (10.7), graph coloring (10.8). *Special topic in "discrete applications" of group theory if time permits (will not be on exams). 2-hour in-class final on Friday, 8/9.* There will be a review session this week for the final, possibly in-class on Thursday if time permits.