Syllabus CMSC 250H, Spring 2026
Discrete Structures Honors

This document has three parts with three very different functions.

1. CONTENT: What is the content of the course.

2. POLICY: How the course is run (office hours, tests, HW, etc).

3. GENERAL INFO: This information is helpful for any course you take at UMCP.

CONTENT

1 Content of the Course

General Idea In this course we will learn how to prove simple and not-so-simple theorems in mathematics. Some of what we prove has direct relevance to computer science. The kind of math you learn is the kind of math that a computer scientist encounters.
All number-of-weeks are approximate:

1. Prop Logic and Circuits - 1 week

2. Pred Logic and Quantifiers and Order Notation - 1 week

3. Sets, functions, relations - 0.5 weeks

4. Proof Techniques, Mod Arithmetic, Basic Number Theory - 3 weeks

5. Induction - 3 weeks

6. Combinatorics, Probability, Bayes Theorem - 3 weeks

7. Pigeon Hole Principle, Ramsey Theory, Muffin Mathematics - 2 weeks

8. Countable and Uncountable sets. - 1 week

9. Optional topics depending on time - 1 week

REQUIRED TEXT There is no text. There will be notes online and slides online.

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