

# CMSC 250-Discrete Structures Honors, Spring 2021

## Syllabus: CONTENT

### 1 Description

We will study fundamental mathematical concepts that are relevant to computer science. In particular we will cover proof techniques, induction, sets-functions-relations, propositional and predicate logic, combinatorics, probability, Number Theory.

### 2 Week by Week

All number-of-weeks are approx

1. Combinatorics, Probability, Bayes Theorem 2 weeks
2. Pigeon Hole Principle, Muffin Mathematics 2 weeks
3. Prop Logic and Circuits 1 weeks
4. Pred Logic and Quantifiers and Order Notation 1 weeks
5. Sets, functions, relations 0.5 week
6. Modular arithmetic and Cryptography 2 weeks
7. Basic Proof Techniques, basic number theory, 3 weeks
8. Induction, 3 weeks
9. Optional topics depending on time. Countable and Uncountable sets.