**Introduction To CMSC 250H**

**H** is for **Honors**.

How does this differ from ordinary CMSC 250?

1. Smaller class.
2. Recitation will teach you a new topic.
3. Every X lectures we will have an enrichment lecture.
Administration

- Class webpage has Syllabus- Policy and Content
- Quiz (every Monday)
- Homework (due Tue-or-Wed -next slide)
- Exams:

  **MIDTERM 1:** Wed Feb 25, 6:00PM-8:00PM
  **MIDTERM 2:** Wed Apr 8, 6:00PM-8:00PM
  **FINAL:** Thursday May 19, 1:30PM-3:30PM

- Class attendance: Why go to class?
- Academic integrity: Why be honest and true?
HW Policy

1. HW DUE on Tuesday in class. CAN hand it in Wed in recit with no-penalty. I will assume your cat died!
2. If often late may affect borderline grades.
3. If often late then I will not write you a letter.
4. If start late then hard to get questions answered.
5. If start late and your cat really does die then you may not get it in even on Wed!!!!
6. I am NOT going to formally define often or late.
Topics in Lecture

- Prop Logic, Circuits, Pred Logic.
- Techniques of Proof
- Number Theory and Cryptography
- Mathematical Induction
- Counting (You will have already seen some in recitation)
- Functions, Relations, and Graphs.
Definition: *Discrete mathematics* is the branch of mathematics dealing with objects that can only assume distinct, separated values. [Wolfram Mathworld]

In contrast: *Continuous mathematics*
Discrete vs. Continuous Math: Examples

Discrete Mathematics
- Number theory (integers)
- Logic
- Combinatorics
- Graph theory
- Theory of computation

Continuous mathematics
- Calculus (real numbers)
- Topology
Some Types of Knowledge

- Directly applied
  Circuits to do addition

- Good to know
  Cannot store the digits of $\sqrt{2}$ on a computer

- Interesting
  The number of primes is infinite
Why learn this material?

- Mathematical foundations of computer science
- Useful for later courses
- Useful for computer programming
- Useful to get a job
- Useful on the job