Welcome to CSE 312!

CSE 312: Foundations of Computer Science, II
- Instructor
  Anna R. Karlin (karlin@cs.washington.edu)
- Tas
  Justin Kotalik
  Jonathan Lee
  Saidutt Nimmagadda
  Varun Mahadevan
  Alex Tsun

Course website
http://courses.cs.washington.edu/312/
We will also be using canvas for some things (e.g. homework turnins)

CSE 312: Foundations of Computer Science, II
- Books (all online or optional)
  Introduction to Probability (2nd ed.) Bertsekas and Tsitsiklis
  Mathematics for Computer Science Lehman, Leighton and Meyer
  Discrete Mathematics and its Applications Rosen [optional]
  OpenIntro Statistics Dietz, Barr and Cetinkaya-Rundel
  Introduction to Probability Models Sheldon Ross
- Workload
  Weekly Homework
    (Out Wednesday by midnight, due next Wednesday by 11:59pm)
  midterm

Applications
- Machine learning/AI
- Simulation
- Cryptography
- Systems and Queueing Theory
- Big Data
- Data compression
- Communications and error-correcting codes
- Quantum computing

- Probability
  Counting
  Basic probability
  Conditional probability
  Random variables
  Discrete and continuous distributions
  Expectation and variance
  Tail bounds and the central limit theorem

- Statistics
  Maximum-likelihood estimation
  Bayesian estimation
  Hypothesis testing

- Applications