CS 420   Spring 2019

Syllabus

1. Finite Automata and Regular Languages (Jan 28 - Feb 13)
   Deterministic and Nondeterministic Finite Automata, Regular Expressions, Pumping Lemma
   Sipser - Chapter 1

2. Pushdown Automata and Context-Free Languages (Feb 20 - Mar 21)
   Context-Free Grammars, Pushdown Automata, Pumping Lemma
   Sipser - Chapter 2

   First Test - Apr 3

3. Turing Machines, and Decidable and Undecidable Problems (Mar 25 - May 1)
   Turing Machines, Universal Turing Machine, Diagonalization, Undecidability of the Halting Problem, Reducibility Between Problems
   Sipser - Chapters 3-5

   Second Test - May 8

4. Complexity Theory (May 6 - May 15)
   Measuring Complexity, The Classes P and NP, NP-Complete Problems
   Sipser - Chapter 7

   Final Exam - May 20, 6:30-9:30