

CS 334 Theory of Computation
Fall 2004

Objectives: Students will study the oldest topic in computer science, theoretic computing machines, with the goal of determining what such machines can compute and what they cannot compute. They will learn about formal languages, automata, and complexity, noting their applications in a variety of applications, such as performance analysis, compiler design, and feasibility studies.

Text: Introduction to Automata Theory, Languages, and Computation by Hopcroft, Motwani, and Ullman.

Meeting Time: MWRF 10:30 – 11:20

Grading:

announced quizzes	36%
surprise quizzes	9%
homework	10%
class participation	5%
project	10%
final exam	30%

Instructor:

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Tentative Schedule

Week	Topics	Chapters to Read
August 30	Review of Proof Methods, Languages	1
September 6	Finite Automata	2
13	Regular Languages and Expressions	3
20	Properties of Regular Languages	4
27	Context_free Languages and Grammars	5
October 4	Pushdown Automata	6
11	Properties of CF Languages	7
18		
25	Turing Machines	8
November 1	Properties of TM's	
8	Language Hierarchies	
15	Church-Turing Thesis and Computability	9
29	Topics in Tractability	10, 11
December 6		