CS 252 - Introduction to Computational Theory, Sections 1 & 2 - Schedule

Winter 2016

Week	Date	Lecture Topics	Reading	Assignments Due
1	Jan 5	Introduction to Course & Languages	2.1	
1	Jan 7	Regular Sets & Expressions	2.2 - 2.3	
2	Jan 12	Regular Expression Identities	2.3	
2	Jan 14	Finite-State Automata (FSA) & DFA	5.1 - 5.2	Homework 1
3	Jan 19	Transition Diagram & NDFA	5.3 - 5.4	Team Assgn 1
3	Jan 21	λ-Transitions & NDFA to DFA	5.5 - 5.6	Homework 2
4	Jan 26	Regular Grammars & FSAs	6.1 - 6.3	Team Assgn 2
4	Jan 28	Nonregular Languages & Pumping Lemma	6.4 - 6.5	Homework 3
5	Feb 2	Context-Free Languages & Grammars	3.1 - 3.2	Team Assgn 3
5	Feb 4	Leftmost Derivations & Ambiguity	3.5	Homework 4
6	Feb 9	Pushdown Automata (PDA) & Variations	7.1 - 7.2	Team Assgn 4
6	Feb 11-12	Midterm Exam 1 (Testing Center, No Class)	Chapters 2-6 (Except 4)	
7	Feb 16	No Class (Monday Class Instruction)		
7	Feb 18	PDA & CFL	7.3 - 7.5	
8	Feb 23	LL(1) Grammars: Lookahead Set	19.1	Homework 5
8	Feb 25	LL(k) Grammars: FIRST & FOLLOW	19.2	Team Assgn 5
9	Mar 1	$FIRST_k/FOLLOW_k$ Sets	19.4 - 19.5	Homework 6
9	Mar 3	Turing Machines (TMs)	10.1, 8.1-8.2	Team Assgn 6
10	Mar 8	TM Acceptance Criteria	8.3	Homework 7
10	Mar 10	Multi-tape & Nondeterministic TMs	8.6 - 8.7	
11	Mar 15	Decision Problems	11.1 - 11.2	Homework 8
11	Mar 17-18	Midterm Exam 2 (Testing Center, No Class)	Chapters 7, 8, 10.1 & 19	
12	Mar 22	Reduction & Church-Turing Thesis	11.3 - 11.4	Team Assgn 7
12	Mar 24	Halting Problem for TMs & Undecidability	12.1 - 12.2	
13	Mar 29	Complexity Analysis & Rates of Growth	14.1 - 14.2	Homework 9
13	Mar 31	Time Complexity of TMs & Linear Speedup	14.3 - 14.5	Team Assgn 8
14	Apr 5	P & NP Classes	15.1 - 15.3	Homework 10
14	Apr 7	Polynomial-Time Reduction	15.6	Team Assgn 9
15	Apr 12	$P = NP$?	15.7	Homework 11 & Team Assgn 10

Final exam is *in class* on Friday, April 15 at 3:00 p.m. for Section 2 and on Monday, April 18 at 3:00 p.m. for Section 1