

Spring 2020 CSCI 3650 Course Outline

Day	Date	Topic	Reading Assignment
1	1/13	Course Introduction	-
2	1/15	Role of Algorithms	3-16
3	1/17	Insertion Sort	16-29
4	1/22	Insertion Sort (cont.)	-
5	1/24	Mergesort	29-37
6	1/27	Mergesort (cont.)	-
7	1/29	Asymptotic Growth of Functions	43-52
8	1/31	Asymptotic Growth of Functions	53-60
9	2/03	Review	-
10	2/05	Quiz 1	-
11	2/07	Divide and Conquer	65-74
12	2/10	Maximum Subarray	-
13	2/12	Solving Recurrences: Substitution method	83-87
14	2/14	Solving Recurrences: Recursion tree	88-92
15	2/17	Solving Recurrences: Master Method	93-96
16	2/19	Quicksort	170-178
17	2/21	Sort lower bound	191-193
18	2/24	Review	-
19	2/26	Quiz 2	-
20	2/28	Dynamic Programming: Rod Cutting	357-369
21	3/02	Dynamic Programming: Matrix Multiplication	1217-1222, 370-377
22	3/04	Matrix Multiplication (cont.)	378-389
23	3/06	Dynamic Programming: Longest Common Subsequence	390-396
24	3/16	Longest Common Subsequence (cont.)	-
25	3/18	Greedy Algorithms: Activity Selection	414-421
26	3/20	Greedy Algorithms (cont.)	423-428
27	3/23	Greedy Algorithms: Knapsack problem	-
28	3/25	Review	-
29	3/27	Quiz 3	-
30	3/30	Graph Algorithms: Breadth First Search	1168-1173, 587-601
31	4/01	Graph Algorithms: Depth First Search	603-610
32	4/03	Graph Algorithms: Topological Sort	612-614
33	4/06	Minimum Spanning Trees	624-636
34	4/08	Quiz 4	-
35	4/13	Single-Source Shortest Paths Algorithms	643-650, 658-662
36	4/15	Single-Source Shortest Paths Algorithms (cont.)	-
37	4/17	All-Pairs Shortest Paths Algorithms	684-692
38	4/20	All-Pairs Shortest Paths Algorithms (cont.)	693-700
39	4/22	<i>TBD</i>	???
40	4/24	<i>TBD</i>	???
41	4/27	NP Completeness	1048-1053
42	4/28	Review	-
**	5/01	FINAL EXAM 11:00 A.M. – 1:30 P.M. (Section 002)	
**	5/04	FINAL EXAM 8:00 A.M. – 10:30 A.M. (Section 001)	