COMPUTING SCIENCE 204 (B1)
Approximate Schedule

Week 1

July 10	intro, division algorithm	
July 11	euclidean algorithm, Fibonacci sequence	Read Sections 1.1 – 1.3
July 12	models of computation, counting operations	
July 13	worst, best, average complexity algorithm efficiency O, Ω, Θ notation	Read Sections 1.4 – 1.6
July 14	asymptotic notation	

Week 2

July 17	analysis of algorithms	Read Sections 2.1 – 2.5
July 18	analysis of algorithms recurrence relations	 Read Sections 3.1 – 3.6
July 19	recurrence relations	
July 20	rooted binary trees, Catalan numbers	
July 21	divide and conquer	Read Sections 4.1 – 4.8

Week 3

July 24	heapsort	
July 25	mergesort, quicksort, average case analysis for quicksort	
July 26	decision trees lower bound on sorting by comparisons	
July 27	graphs, trees	Read Sections 7.1 – 7.7
July 28	MIDTERM EXAMINATION	

Week 4

July 31	traversing trees preconditioning, ancestry,	
August 1	depth-first search breadth-first search articulation points	
August 2	greedy algorithms, minimal spanning trees Kruskal's algorithm	Read Sections 8.1 – 8.4
August 3	disjoint set structures	Read Section 6.6
August 4	Prim's algorithm Dijkstra's algorithm	

Week 5

August 7	optimality of binary search average case analysis of binary search	
August 8	dynamic programming matrix multiplication	Read Sections 10.1 – 10.4, 10.6 B&B 7.6
August 9	Floyd's algorithm	
August 10	chained matrix multiplication	B&B 8.6 (Read 8.7 – 8.8)
August 11	Knuth-Morris-Pratt string matching	Chapter 34.4 – Cormen, Leiserson, Rivest

Week 6

August 14	P and NP, intractability NP-completeness	Read Sections 13.1 - 13.3
August 15	approxmation algorithms bin packing, knapsack and subset sum problems	Read Sections 13.4 - 13.6
August 16	graph coloring traveling salesman problem computing with DNA	Read Sections 13.7 - 13.9
August 17	FINAL EXAMINATION	

Assignment Due Dates

Assignment # 1	July 19
Assignment # 2	July 28
Assignment # 3	August 8
Assignment # 4	August 16