

Tentative Course Outline

Week 1:

data structures, abstract data types CLRS 1.1, 2.1-2, 10
dictionaries, binary search trees CLRS 12

Week 2:

red-black trees CLRS 13
AVL trees

Week 3:

augmenting data structures CLRS 14
B-trees CLRS 18

Week 4:

average case complexity and randomized algorithms CLRS 5.1-5.3; Appendix C.1-C.3; 10.2; 7;
9.2

Week 5:

hashing CLRS 11

Week 6:

amortized analysis (aggregate, accounting and potential methods) CLRS 17.1-17.3

Week 7:

amortized analysis, dynamic array CLRS 17.4

Week 8:

priority queues
heaps CLRS 6
Fibonacci heaps CLRS 19

Week 9:

lower bounds on problem complexity CLRS 8.1, online lectures

Week 10:

disjoint sets CLRS 21

Week 11:

graph representations, breadth first and depth-first search CLRS 22.1-3

Week 12:

minimum spanning trees CLRS 23