

# Exam plan

*Jan 2020 - plan may or may not mirror reality, and vice versa (?)*

Num	Topic(s)	Text
1	array, linked list, array list	Morin 2.1-2.4; Morin 3.1-3.2
2	hash table	Morin 5.1-5.2; Algos 3.4; Bill: Hash table
3	stack, queue	Java 4.3; Bill: Stack/Queue ADT
4	Java intro: basics, OOP, ADT	Java: 1.1-1.5
6	algorithm analysis: Big-Oh	Morin 1.1-1.7; Java 4.1; Algos 1.4

## Exam #1 - Fri Feb 7

1	recursion	Java 2.3
2	JCF	Bill: JCF intro
3	Java, cont: inheritance, polymorph, etc	
4	trees, binary search tree	Morin 6.1-6.3
5	fancy trees: 2-4 trees, B-trees	
6	priority queue, heap	Algos 2.4; Morin 10.1
7	balanced trees: AVL, red-black, scapegoat	

## Exam #2 - Fri Mar 20

1	search: binary search	Java 4.2; Algos 3.2
2	sort: bubble, selection, insertion, quicksort, etc	Morin 11.1
3	graphs: directed, undirected	Algos 4.1-4.2
4	shortest path, Dijkstra	Algos 4.4
5	min spanning tree: Prim, Kruskal	Algos 4.3
6	traversal: breadth-first, depth-first	Algos 4.2
7	cumulative: review exam 1/2 material	

## Final exam - Mon Apr 27

### Text references

**Morin** = Open data structures by Morin, [www.opendatastructures.org](http://www.opendatastructures.org)

**Java** = Intro to Programming in Java by Sedgewick, [introcs.cs.princeton.edu/java/home](http://introcs.cs.princeton.edu/java/home)

**Algos** = Algorithms 4th edition by Sedgewick, [algs4.cs.princeton.edu/home](http://algs4.cs.princeton.edu/home)

**Bill** = Prof Bill notes