Midterm Review

Format: close book, one cheat sheet is allowed!

Midterm will cover the following sections in your book.

- 1.3 Stacks and Queues
- 1.4 Analysis of algorithms
- 2.1 Elementary Sorts
- 2.2 Merge Sort
- 2.3 Quick Sort
- 3.2 Binary Search Trees

Questions about the following topics may be asked.

- Time complexity and memory complexity.
- Order of growth classifications
- Notations used in algorithm analysis such as Big O, Big θ, Big Ω. Not the books tilde (~) notation.
- How to determine time complexity.
- Binary search trees: basic concept, how to insert, how to search, time complexity.
- Elementary sorting algorithms (bubble, selection, insertion, shell sort). How they work, time complexities, etc.
- Merge sort details. Time complexity, recursion, merge process, etc.
- Quicksort. Time complexity, basic process, recursion, pivot selection, partitioning.

Questions on the exam will likely be more than just 'please give me this information.' You will have to think critically about these topics and prove that you have an understanding of them, instead of just simply memorizing the details. The word 'analysis' is in the title of the course.