

Csci 335 Schedule

Required Reading

The following table outlines the topics that we will cover during the semester. You are expected to read the material in the given chapter before the class in which it is covered. There is more material in the chapters than we will cover in class. The list below summarizes the parts of the chapters that will, for certain, be covered in class. If time permits, I may include other material.

| Topic | Weeks |
|--------------------------------------------------|-------|
| Chapter 1. Introduction (Review) | 1 |
| Introduction | |
| C++ review: various topics | |
| Chapter 2. Algorithm Analysis | 2 |
| Theoretical Background, Modeling | |
| Running Time Calculations | |
| Chapter 4. Trees | 3-5 |
| Tree fundamentals | |
| AVL Trees | |
| B-Trees | |
| Chapter 5. Hashing | 6-7 |
| Hashing Basics | |
| Collision Resolution and Open Addressing | |
| Rehashing | |
| Perfect Hashing | |
| Chapter 6. Priority Queues (Heaps) | 8-9 |
| Heap Basics | |
| Binary Heaps | |
| Chapter 7. Sorting | 10-11 |
| Sorting (including Shell Sort) | |
| Heapsort | |
| Quicksort | |
| Lower Bound for Sorting | |
| Chapter 8. Disjoint Set ADT | 12 |
| Equivalences and the Dynamic Equivalence Problem | |
| Basic Data Structure | |
| Smart Union and Path Compression Algorithms | |
| Chapter 9. Graph Algorithms | 13-14 |
| Graph Algorithms | |
| Shortest path algorithms | |
| P and NP | |