

CSE 2383 – Data Structures and Analysis of Algorithms

Textbook: *Data Structures and Algorithms in C++* by Drozdek, Thomson, 3rd edition. 2005

*STL Programming from the Ground Up* by Schildt, Osborne/McGraw-Hill, 1999

**General topics:**

1. Review of linear structures (lists, stacks, queues)
2. Using generic container classes – Generic containers; iterators
3. Tree Structures – Binary Trees; Tree traversal algorithms; search trees; balanced trees; heaps
4. Graphs – Definitions; representations; algorithms
5. Hash Tables
6. Relational Data Model – Relational Algebra; Relational Database Management Systems; SQL
7. File Organization – Sequential; indexed

**Topics by book Chapters**

Review of Linear Structures (lists, stacks, queues) (Chapters 3, 5, 6)

Generic Containers and Iterators (STL Book)

Binary Trees, Tree Traversals (Chapter 8)

Binary Search Trees (Chapter 11)

Balanced Binary Search Trees (Chapter 11)

Heaps (Chapter 9)

Graphs (Chapter 12)

Graphs (Chapter 12)

Hash Tables (Chapter 7)

Relational Algebra

DBMS

SQL

File Organization