University of Washington
Computer Science & Engineering 373: Data Structures and Algorithms
Course Syllabus, Winter 2013

Instructor

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Course Overview

This course is about fundamental data structures and algorithms. In this course, you will:

- Learn about fundamental data structures (including lists, stacks, queues, trees, sets, maps, heaps, and graphs)
- Learn about searching and sorting algorithms
- Understanding abstract data types (ADTs) and the tradeoffs between different implementations of ADTs
- Learn to use existing data structure libraries such as Google's Guava
- Gain an understanding of which data structures are most effective for various scenarios and problems
- Become proficient with analyzing the running time of various algorithms associated with data structures
- Implement several data structures in detail
- Gain familiarity with a computer's memory hierarchy and related structures such as B-trees

Prerequisite

CSE 143 or equivalent

Lecture Time

MWF 2:30 PM - 3:20 PM, EEB 105

Course Web Site

http://www.cs.washington.edu/373/

All resources from class will be posted here. Check the web site daily for important announcements.

Textbook

Weiss, Mark A. *Data Structures and Algorithm Analysis in Java, 3ed,* Addison Wesley: 2011, ISBN 0132576279.

The book is listed as being required for the course. But problems and assignments will not be assigned out of the book. Despite this, it may be useful. The book describes lecture topics in more detail; most lectures will contain suggested book reading to help understand the topic. Also, exams in this course will be open-book, so it will be advantageous to own the book for use as a reference during exams.

Computer Access and Software

We will use Java 1.6 for programming assignments. We recommend (but do not require) that you use the Eclipse development environment. The College of Arts & Sciences Instructional Computing Lab (rooms B022 and B027 in the Communications Building) is the computer lab for this course; the above software should be installed there as well as in other public campus labs. Links for downloading and installing Java and Eclipse can be found on our course web page.

Grading

60%	assignments	(programming projects and written exercises)
20%	midterm	(**Wednesday, February 20, 2013**, *in class*)
20%	final exam	(**Tuesday, March 19, 2013**, 2:30 - 4:20 PM, EEB 105)

This maps to the 4.0 scale roughly as follows. You will get at least the grade below for the percentage shown.

90%: at least 3.5 80%: at least 2.5 70%: at least 1.5 60%: at least 0.7