

Georgia State University
Department of Computer Science
Course Syllabus

CSc 3410 – Data Structure (5:30 pm - 6:45 pm, MW), Spring 2008
Instructor: Jason Ding

Course Title

Data Structure (10591)

Course Description

Introduction to basic concepts and analysis of data representation and associated algorithms, including lists, stacks, queues, trees, hashing, heaps, graphs, searching and sorting.

Prerequisite

CSc2311 (Principles of Computer Programming II), MATH 2211, and MATH 2420 with grades of C or better.

Class Time and Place

M, W 5:30–6:45 p.m.
Room 331, General Classroom Building

Instructor

Dr. Jason Ding
Suite 1437, One Park Tower (34 Peachtree Street), Atlanta, GA
Email: zding@gsu.edu
Home page: <http://www.cs.gsu.edu/~csczjdx/csc3410> (Be ready soon)

Office Hours:

M, W 4:20–5:20 p.m. (except when preempted by meetings) and by appointment

Textbooks

Data Structures and Problem Solving Using C++ (Second Edition) by Alan Weiss, published by Addison-Wesley, 2000 ISBN: 0-201-61250-X (required)

Introduction to Algorithms (Second Edition) by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein, Columbia University, published by the MIT Press, 2001 ISBN: 0-262-03293-7. (referred)

Problem Solving with C++: The Object of Programming (Fifth Edition) by Walter Savitch, published by Addison Wesley, 2004 ISBN: 0-321-26865-2 (referred)

Topics

1. Reviews of C++, (Ch. 1, 2, 3, 4)
2. Design Patterns & Algorithm Analysis, (Ch. 5 & 6)
3. STL - Stacks, Lists, Trees, Sets, Maps, & Priority Queues, (Ch. 7, 12, 16, 17, 18, 19)
4. Recursion, (chapter 8)
5. Sorting Algorithms, (Chapter 9)
6. Graphs & Paths (chapter 15)

Grading

Programming assignments, homework, quizzes and exams will be given numerical scores. These scores will be averaged at the end of the semester using the following weighting:

- 1) 2 exams, worth 20% each
- 2) A final exam, worth 30%
- 3) Class participation (Several quizzes), 10%
- 4) Programming assignments and homework, 20%

Assignment/Homework Submission: Assignments must be turned in (in class) by the first 10 minutes of the class by the due date; otherwise, your submission will be considered late.

Late submission penalty: is 20% and the assignment must be turned in by the start of the first class after the due date. No assignments will be accepted after that class.

Letter grades will be determined by ranking the numerical averages of all students in the class. Cut-off points for grades will depend on the performance of the class as a whole; however, they will be no higher than 90 (A), 80 (B), 70 (C), and 60 (D).

Note (GSU Computer Department's policy on computing final weight average): "It is the policy of the Department of Computer Science that each instructor of record of any 1000-, 2000-, or 3000-level computer science course compute each student's final course score so that the student's performance on any/all work done outside of class and submitted for a grade cannot raise the student's final course score but can lower it. In this context, the final course score, [or final weight average], is the numerical percent that is mapped into the letter grade for the course."

Your final weight average is the minimum of your Total Weight Average (TWA) and your In-class Weight Average (IWA).

Example 1: If you make:

18% on exam #1 15% on exam #2 30% on final exam
8 % on class participation 20% total on all assignments and homework.

Your TWA = $((18 + 15 + 30 + 8 + 20) * 100) / 100 = 91\%$ (A)

Your IWA = $((18 + 15 + 30 + 8) * 100) / 80 = 88.75\%$ (B)

Your final weight average = $\min(\text{TWA}, \text{IWA}) = \min(91\%, 88.75\%) = 88.75\%$ (B)

Example 2: if you make:

18% on exam #1 15% on exam #2 30% on final exam
8 % on class participation 0% total on all assignments and homework.
Your TWA = $((18 + 15 + 30 + 8 + 0) * 100) / 100 = 71\%$ (C)
Your IWA = $((18 + 15 + 30 + 8) * 100) / 80 = 88.75\%$ (B)
Your final weight average = $\min(\text{TWA}, \text{IWA}) = \min(71\%, 88.75\%) = 71\%$ (C)

Your final weight average will be used to determine your final letter grade using the table below:

A 90% and above	B 80% thru 89%	C 70% thru 79%
D 60% thru 69%	F less than 60%	

Attendance

Regular attendance is expected; please notify me in advance if you will be unable to attend because of business travel or other valid reason. Although the grading policy does not take attendance into account, failing to attend may adversely affect your grade, since exams will cover material discussed in class as well as in the assigned readings; also, hints related to the assignments will be given in class.

Academic Honesty

All work submitted for grading must be the student's own work. A student, who submits an assignment that copies the work of another student, in whole or in part, will be assigned a grade of zero for that assignment. Any student found to be cheating on an examination will receive a score of zero for that exam. Cheating on an assignment or exam may result in dismissal from the course and notification of the Dean of Students.

Classroom Etiquette

Cellular phones must be turned off during class. Please do not arrive late, leave early, or go in and out of class, since this behavior is very distracting.

Withdrawals

The last day to withdraw is Monday, March 3th (Please double check the school calendar). Anyone withdrawing by that date will receive a grade of "W".

Disclaimer

The course syllabus provides a general plan for the course; deviations may be necessary.