

CSc 3410 Data Structures

Spring, 2006 5:30 pm - 6:45 pm M/W General Classroom Building 323

Instructor: Bernard Chen

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Course Home Page: <http://www.cs.gsu.edu/~cscbecx/Lecture.htm>

Office Hour: T/Th 4:00 PM – 5:00 PM by appointments

Pre-requisites: CSc2311 (Principles of Computer Programming II), MATH 2211, with grades of C or better. (GSU Catalog, 2005)

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

Topics include:

1. Reviews, (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)

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

Grading Policy: The grades for this course will be based upon the following components:

- 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/homework must be turned in (in class) by the first 5 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.

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).

For example, 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(TWA, IWA) = min(91%, 88.75%) = 88.75% (B)

However, 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(TWA, 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%

NOTE: This syllabus represents a general plan for the course and deviations from this plan may be necessary during the duration of the course.