CSCI 2125 Section 601 -- Data Structures Spring 2004

Catalogue Description:
The use and manipulation of structured data objects such as stacks, queues, trees, and lists; storage allocation for structured data objects.

Prerequisites:
Computer Science 2120, Software Design and Development II, and Mathematics 2721, Introduction to Discrete Structures, with grades of C or better.
If you do not meet these prerequisites, you MUST bring me a signed note from your advisor or the graduate coordinator before class Friday, January 26th, stating why you should be admitted to this class. Otherwise, you must drop this course.

Text:
*There will also be some notes for the last part of the course to be available in due time.*

Organization:
The course is a continuation of Computer Science 2120, and further develops the topic of data abstraction as the principal tool for system design. Several important subjects will be discussed, including:

- **design**: we will examine design strategies for large systems and libraries, and try to categorize some of the approaches seen;
- **efficiency**: though this is more properly an algorithmic topic, we will spend some time becoming familiar with the notion of computational complexity, and informally determine the complexity of methods relating to the structures we study;
- **data structures**: we will examine the specification and alternative implementation of a number of important container classes. We will compare and contrast several List implementations, study the related dispenser classes Stack and Queue, examine trees and tables, and perhaps other structural patterns as well. We will also briefly consider questions of storage allocation.

Office Hours:
My office is MATH 331. I will generally be available the hour before class, 5:00-5:50 p.m. M, W. Please try to come by then, or make an appointment if you cannot.

Email/Home Page:
You can contact me at jaime@cs.uno.edu. My phone: 280-7362. The course page is [http://www.cs.uno.edu/jaime/Courses/2125/index.html](http://www.cs.uno.edu/jaime/Courses/2125/index.html). From time to time I will communicate through email with you using your department email account; you are responsible to read your email in a timely manner. Also, if you send me email
- do it using your department account.
- write as subject: CSCI-2125 student.
Do not expect me to open nor I answer any student email that was not sent through your department account.

**Exams:**
We will have 2 tests and a final. The tests are tentatively scheduled for Feb 19 and March 31. The final exam is Monday, May 10th, 5:30-7:30 p.m. No makeup exams will be given.

**Homework:**
A number of homework will be assigned during the semester. We may also do a substantial project. Since I may sometimes test programs by running them under your departmental account, you should be prepared to make executable versions of your programs locally accessible. You are also required to turn in hard-copy xemacs pretty-printed source. Assignments are due at class time, on the date given, and should be handed in to me, or at your risk, left in my mailbox in MATH 311. The box outside my office is an OUT box, please do not place any work there. No late submissions accepted unless explicitly stated; if late submissions are allowed, homework will include instructions for penalty points as well as latest possible submission. I generally grade late homework much more rigorously and grade it at my convenience; that means that you will not get it back until after the end of the semester. No late homework will be accepted during or after the last week of classes. If you fail to submit a homework, you will fail the course. Unless you are explicitly instructed otherwise, homework assignments are individual projects. Collaboration is considered cheating, and incorporation of un-referenced ideas or materials that are not your own is considered plagiarism.

Letter grades of A will be assigned for excellent work of exceptional quality, B for good work, C for work that is minimally satisfactory, D for unsatisfactory work, and F for completely unsatisfactory work. Note: it is better to turn in an assignment and get a poor grade than not to turn it in at all and fail the course. Also note that generally a program must work correctly to be "minimally satisfactory". Turning a program that works insures you of at least a C, not of an A.

**Grading:**
- Homework: 40%
- In class Tests: 30%
- Final: 30%
Letter grades will be assigned as [90 - 100] = A, [80 - 90) = B, etc. Final exam will replace the lowest in class test grade, if test grade lower than final grade.

**Auditors:**
If you are auditing the course, you must attend class regularly and take the examinations to receive a satisfactory audit.

**Cheating:**
Finally, I must call your attention to the University’s policies regarding academic dishonesty. (See appropriate pages of the Student Handbook.) Academic dishonesty includes cheating, plagiarism, and collusion. In particular, it includes "the unauthorized collaboration with another person in
preparing an academic exercise" and "submitting as one’s own any academic exercise prepared
totally or in part for/by another." In there is evidence of unauthorized collaboration or of plagia-
rism, all involved students will be assigned a grade of 0 on the exam or exercise, and the Assistant
Dean for Special Student Services will be notified for possible disciplinary action. I strongly sug-
gest that you keep all homework source in a protected directory.

Note that April 13th. is the last day to drop classes