CSCI 2720: Data Structures
Spring 2016

Instructor: Karen Aguar (kaguar@uga.edu)
Office: Boyd 216
Office Hours: Tuesdays 2:00PM - 3:00PM & Wednesdays 1:30PM - 3:30PM

Lecture Times & Locations:	Section 26-490:	Tues, Thurs	12:30PM–1:45PM in Chemistry 451
		Wednesday	12:20PM–1:10PM in Chemistry 453
	Section 26-486:	Tues, Thurs	3:35PM–4:25PM in Corell Hall 313
		Wednesday	3:30PM–4:45PM in Chemistry 453

Brief Description:

The design, analysis, implementation, and evaluation of the fundamental structures for representing and manipulating data: lists, arrays, trees, tables, heaps, graphs, and their memory management.

Extended Description:

This course introduces fundamental structures for representing and manipulating data. This is not a course on computer programming. We will use C++ to implement many of the data structures discussed in the course, but C++ will not be discussed much in class. This class focuses on the design, analysis, and evaluation of various data structures. This course is considered a gateway course because without a solid understanding of data structures and analysis, one cannot comfortably move on to other courses in computer science. Students are expected to spend, on average, six to eight hours per week outside of lectures studying course concepts, practicing programming, and working on homework and programming projects.

Prerequisites:

CSCI–1730 (Systems Programming) & CSCI–2610 (Discrete Math) – Prerequisites are strictly enforced.

Required Text: Introduction to Algorithms" (3rd Ed.) by Cormen, Leiserson, Rivest and Stein.
ISBN-13: 9780262033848

Recommended Text: Data Structures and Their Algorithms by Harry Lewis and Larry Denenberg (L&D).
ISBN-10: 067339736X

eLearning Commons:

In this class, we will use the *new* eLC. Students should regularly check the course site on eLearning Commons (eLC): `http://elcnew.uga.edu`. Important links to needed websites, grades and some course content will be made available there.

Piazza:

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from your classmates, TA's, and instructor. Rather than emailing general questions to the teaching staff, you should post your questions on piazza. Typically, many students have the same questions and others will benefit from seeing the Q & A on piazza.
Find our class page at: piazza.com/uga/spring2016/csci2720aguar

Programming Languages & Coding Assignments:

Unless otherwise stated, you should implement your programming assignments in C++. You are free to use new language features available in C++ 11 and C++ 14, if needed. All submissions that involve code are expected to include a README file explaining how to compile and run the code in the submission.
All submissions must compile and run on the departmental nike server.

The SSH hostname for nike is nike.cs.uga.edu. It is recommended that after you login to nike, you ssh into one of the cf cluster nodes, cf0-cf11. Your password for the nodes in the cf cluster is the same as your nike password.

If you have trouble logging into nike, please contact support@cs.uga.edu as soon as possible. Forgetting your username or password or waiting on System Support is *NOT* an excuse for late work.

Projects & Groups:

Several programming projects will be assigned throughout the semester. Projects involve both implementing and analyzing data structures. This usually means that a typical project includes one or more data structure implementations as well as questions and/or analysis related to those implementations. Students should take care to neatly and clearly present their results.

Additionally, students may form groups of two to work on their projects in this course. Although it may be tempting to completely split the work for a project, it is important that each group member understand all of the material in their project submission since it may (and likely will) be referenced in an exam.

Written Homework:

Several written homework assignments will be assigned throughout the semester. All homework assignments are individual assignments (no collaboration) unless otherwise stated. These will be submitted either through eLC-new or handed in at the start of class on the due date.

Late Work:

Any assignment (projects or written work) that is turned in late is subject to a 20% deduction in the number of potential points for each 24 hour period (including weekends) since the time when the assignment was due, up to 48 hours. For example, if a project is worth 100 points, if you turn it in between 0-24 hours after the deadline, the highest score you can potentially earn is 80/100. If you turn it in late but 24-48 hours after the deadline, the highest score you can potentially earn is a 60/100. No submissions will be accepted after 48 hours and will receive a score of 0.

Regrading: With the exception of the final exam and any work turned in after reading day, students may request a reevaluation of graded materials. In order to be considered, students must send a regrade request to their instructor or TA within 7 days of the grade being posted on eLC. Regrade requests may result in a lower grade.

Grade Weights:
(20%) Midterm Exam
(25%) Final Exam
(50%) Programming Projects & Assignments
(5%) Participation

Final Letter Grades: Final letter grades will be determined according to the following scale:

A $\geq$ 92.5	92.5 > A- $\geq$ 89.5	89.5 > B+ $\geq$ 87.5	87.5 > B $\geq$ 82.5	82.5 > B- $\geq$ 79.5
79.5 > C+ $\geq$ 77.5	77.5 > C $\geq$ 72.5	72.5 > C- $\geq$ 69.5	69.5 > D $\geq$ 59.5	F < 59.49

The grade that you earn in this course will be the grade assigned. There are no bonus assignments and certainly no free points given out at the end (regardless of your reasoning). I will round the final grades up following a standard rounding scheme. For example, a grade of 89.51 is rounded to an A- and a grade of 89.49 is a B+. Bonus points are reserved for the students that answer the most questions on Piazza. Students must be registered for this course in order to receive any grades.

Academic Honesty:

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: `http://honesty.uga.edu`. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

The Computer Science Department recognizes honesty and integrity as necessary to the academic function of the University. Therefore all students are reminded that the CS faculty requires compliance with the conduct regulations found in the University of Georgia Student Handbook. Academic honesty means that any work you submit is your own work.

Common forms of academic dishonesty against which students should guard are:

1. Copying from another student's test paper or laboratory report, or allowing another student to copy from you;
2. Fabricating data (computer, statistical) for an assignment;
3. Helping another student to write a laboratory report or computer software code that the student will present as her or his own work, or accepting such help and presenting the work as your own;
4. Turning in material from a public source such as a book or the Internet as your own work.

Steps to help prevent academic dishonesty are:

1. Familiarize yourself with the regulations.
2. If you have any doubt about what constitutes academic dishonesty, ask your instructor or a staff member at the Office of the Vice President for Instruction.
3. Refuse to assist students who want to cheat.
4. Do not allow anyone to copy any of your work, and report anyone who tries to copy from you to the instructor or TA as soon as possible.

Syllabus Policy:

Students are responsible for learning and following all policies stated in this syllabus. This course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.