

CSC 221 - Data Structures and Algorithms I

Course Description: (3h) Study, analysis, and implementation of abstract data structures such as stacks, queues, trees, and graphs. Complexity analysis of algorithms that operate upon these data structures.

Prerequisites: Computer Science 112 and Mathematics 117

Course Information:

Professor: Dr. William Turkett - Manchester 240, 758-4427, email: turketwh@wfu.edu

Office Hours: Tuesday 4:00pm-6:00pm, Friday 2:00pm-4:00pm, Recitation: Thursday 6:00-7:00

Teaching Assistant: TBA

TA Office Hours: TBA

Meeting Time For Class: 1:00-1:50pm MWF, Manchester 024

Webpage: <http://www.cs.wfu.edu/~turketwh/CS221/Spring2007/index.html> - Please check the website frequently for updates concerning the class.

Textbook: Data Structures and Algorithms in C++, 3rd edition - Adam Drozdek - Thomson Course Technology - ISBN 0534491820

Grading:

- 3 Tests – 50%
- Programming Assignments - 50%

Expected Grading Scale:

- A – Demonstrated mastery of course subjects
- B – Demonstrated advanced understanding of course subjects
- C – Demonstrated basic understanding of course subjects
- D – Demonstrated minimal understanding of course subjects
- F - Failure

Attendance:

Regular attendance and participation in class is expected.

Tests and Final Exam:

There will be three tests (including the final exam) to judge the student's progress in the course. These tests may include material from the appropriate sections of the textbook, lectures, homeworks, and programming assignments and are cumulative. Tests and

exams will be closed book. Make up tests will be allowed only if the absence is excused by the University.

Homeworks:

The intent of the homeworks in this course is to provide you with reinforcement of the material covered in the lectures. The homeworks in this course are optional and cannot explicitly help or hinder your grade. Since they are optional, they can also be collaboratively performed. Homework answers will be reviewed during a recitation period. I will also correct and comment on the homeworks so that you can have direct feedback concerning your understanding.

Programming Assignments:

Several programming assignments will be assigned over the course of the semester. Blackboard will be used as the primary mechanism for collecting programming assignments. No late programming assignments will be accepted. The programming assignments will also attempt to reinforce useful software development skills. The assignment may include tasks that will demonstrate understanding or mastery of such skills.

Academic Integrity:

All tests and programs must be done independently by each student. Copying of partial or complete work will be referred to the University Judicial System. Do not throw away or recycle any notes until the end of the semester. Should a question of authorship arise you will be expected to produce documents that trace the development of your work. Algorithmic and electronic means of detecting copying may be used by the instructor on submitted assignments.

Learning Assistance:

If you have a disability that may require an accommodation for taking this course, please contact the Learning Assistance Center (758-5929) within the first two weeks of the semester.

Topics Covered:

- Algorithms: Recursion
- Algorithms: Sorting
- Algorithms: Complexity Analysis
- Data Structures: Linked Lists
- Data Structures: Stacks and Queues
- Data Structures: Trees
- Data Structures: Tables and Hashing
- Data Structures: Graphs
- Programming: C++ (OOP, Inheritance, Templates, STL)
- Programming: Reading Code, Documentation, Debugging, Testing, ...
- Operating Systems: Using *nix In Software Development

University Closure:

In the event that the University closes due to pandemic or other disaster, you will be requested to read the book sections as outlined in the CSC 221 Lecture Plan document. Lecture materials, in the form of Powerpoint slides and/or videos, will be distributed. The original programming exercises will be assigned at appropriate intervals. These assignments will be distributed via email or Blackboard if the Internet is available or via postal mail if the Internet is not available. You should send electronic versions of your answers to the problem sets and programming exercises to William Turkett (turketwh(at)wfu(dot)edu or turketwh(at)gmail(dot)com, if the Internet is available, or 278 Glen Eagles Drive, Winston-Salem, NC 27104, if it is not). My home phone number, for direct questions, is 336-659-0624. You will be provided with tests and finals through the means described above. These should be taken closed book, without access to papers, persons, or resources other than a calculator. The return dates for the examinations will be specified in the mailing.

Course Calendar:

January 17th – First day of class
February 19th – Test #1
February 21st – Last day to drop with a W
March 9th – Mid-term grades available
March 12th-16th – Spring Break holiday
March 30th – Test #2
April 6th – Good Friday holiday
May 2nd – Last day of class
May 5th (Saturday) – Final Exam (2:00pm)

Emergency Planning Contact Information

The information collected below will be destroyed (shredded) at the end of the semester. Please provide as much information as possible for the residence at which you plan on staying if an emergency situation occurs and requires the closing of the Wake Forest University campus.

Alternative (non-WFU) e-mail address:

Please use my WIN contact information: []

Please use the following contact information: []