COURSE NUMBER: CSC 230
COURSE TITLE: Elementary Data Structures and Algorithms
CREDITS: 3 hours

PREREQUISITES/COREQUISITES:
- A grade of C or better in CSC130, or
- Transfer credit for CSC130

INSTRUCTOR INFORMATION:
Lydia K Fritz, Lecturer, 152 Petty Building, 336.334.9723, lkfritz@uncg.edu.
Office Hours: Monday & Friday, 10 – 11am, Tuesday & Thursday, 11 am – 12 noon.
Other hours are available by appointment. Email lkfritz@uncg.edu to schedule.

COURSE DESCRIPTION:
This course is a required course for Computer Science majors.
The course material includes
- advanced syntax of high level language taught in CSC130
- emphasis on modularization and abstraction
- design and use of abstract data types with various implementations
- algorithm analysis including big-Θ analysis

STUDENT LEARNING OUTCOMES:
Upon successful completion of this course, a student should be able to demonstrate a mastery of the following concepts:
- Object composition and inheritance
- Design and implementation of elementary container data structures, including arrays, linked-lists, stacks and queues
- Mechanics and efficiency of elementary searching and sorting algorithms, including String handling algorithms
- Recursion

TEACHING STRATEGIES:
This course will consist of 150 minutes of lecture per week. Class lectures will be interactive and students will be expected to participate in class discussion. Clickers will be used to evaluate class participation.

TEACHING PHILOSOPHY: Simply regurgitating facts is not enough to illustrate an understanding of the material covered in this, or any, course. An individual who possesses a deep and thorough understanding of concepts can explain them to others, both verbally and in writing. Unless knowledge can be communicated to an audience, it is useless. The tests in this course will include written, essay-type questions. Questions will be evaluated not only on content, but on how well the content is expressed.

PROGRAMMING ASSIGNMENT EVALUATION:
- All programming assignments will be completed outside of class. Students are encouraged to use the Java tutors available in the Petty 211 lab. Schedule details are available here: http://www.uncg.edu/cmp/academic/tutoring.html
- Programs that do not compile will not be evaluated. A score of 0 will be given if a program does not compile, REGARDLESS OF REASON.
- All programs will be submitted in Blackboard. Programs WILL NOT BE ACCEPTED VIA EMAIL. Blackboard is sometimes offline for maintenance or other reasons. This is not an excuse for late work. Plan accordingly and do not wait until the last minute to submit your work.
- Good programming practices must be followed. The instructor reserves the right to deduct for any assignment that is not well-documented, of poor readability, or of otherwise unprofessional quality.
- See “Missed/Late Work” policy, below.
EVALUATION AND GRADING:
- 30% programming assignments
- 10% class participation/daily clicker quiz
- 15% each for two written tests
- 30% cumulative final exam

Grading Scale
- A+ = (97, 100]
- A  = (93, 97]
- A- = (89, 93]
- B+ = (87, 89]
- B  = (83, 87]
- B- = (79, 83]
- C+ = (77, 79]
- C  = (73, 77]
- C- = (69, 73]
- D+ = (67, 69]
- D  = (63, 67]
- D- = (59, 63]
- F  = [0, 59]

REQUIRED TEXTS/READINGS/REFERENCES/SUPPLIES:
  *BRING YOUR BOOK TO CLASS EVERYDAY.*
- *I>Clicker.* Bring your i>Clicker to class everyday.

CLASS PARTICIPATION/DAILY QUIZZES:
Part of your grade in this course is based on your “participation”. I will be using the i>Clicker to assess the participation part of your grade in the following ways:
- **Quiz Points**
  Most classes will begin with a short clicker quiz on the daily reading. This quiz will be given within the first 5 minutes of class and cannot be made up. Please note that if you are late (for whatever reason) and miss the quiz, you will earn a score of 0 on that day’s quiz. Also note that until you register your i>Clicker, your responses will not be recorded and you will earn a score of 0 on any quizzes given. Quizzes are graded based on the number of correct responses given divided by the total number of questions. The quiz grade counts for half of your class participation grade.
- **Discussion Points**
  Most classes will include one or more problems presented for discussion. You will be asked to answer these questions using your clicker. After the class gives an initial answer, we will discuss the problems further and possibly enter a second follow up answer. You will be expected to answer at least 75% of the questions presented. You do not have to answer correctly to earn the discussion points. The discussion points count for the other half of your participation grade. If you do not answer a minimum of 75% of the discussion questions, you do not get ANY points for this part of your participation grade.

EXERCISES:
Self-test questions appear throughout each chapter, to reinforce the concept just presented. Solutions to these questions are provided at the end of each chapter. These questions are good practice for preparing for tests and programming assignments. If time permits, I will answer questions about the exercises in class; if you need additional help, see me in my office. *You must study the material in the textbook chapters to be successful in this class.*

ACADEMIC INTEGRITY POLICY:
Students are expected to adhere to the UNCG Academic Integrity Policy, discussed in the first class and linked from the syllabus. See [http://studentconduct.uncg.edu](http://studentconduct.uncg.edu). Each student is required to sign the Academic Integrity Policy on all major work submitted for the course. Refer to UNCG Undergraduate Bulletin.

ATTENDANCE POLICY:
Attendance is taken daily. The instructor reserves the right to drop any student who misses more than 3 class lectures or labs. The university allows for a limited number of excused absences for religious observances --- students who plan to take such an absence should notify the instructor at least two weeks in advance so that accommodations can be made (also see the missed/late work policy below).
FINAL EXAMINATION:
A cumulative final exam is required and will be given during the time specified on the University Registrar's Office Exam Schedule. Our exam is scheduled for Tuesday, May 6 from noon – 3pm.

MISSED/LATE WORK POLICY:
- Makeup tests are not given
- The final exam must be taken. If the final is missed, the student will be given an incomplete in the course.
- Students with planned absences, whether for university events, religious observance, or other reason, are expected to make arrangements with the instructor to turn in assignments or take exams before the scheduled date of the assignment or test.
- All programming assignments will count – there are no dropped grades!
- Late work is accepted at a cost of 5 points per 12 hour period.

ACCREDITATION:
As part of our accreditation, we must keep samples of student work. Your tests and programs may be copied as samples. Names are removed before copying. If you wish to refuse permission to copy your work, let your instructor know.

CLASS HANDOUTS:
Any handouts used in class will be available through the Course Documents link on Blackboard.

ANNOUNCEMENTS:
If the need should arise, any announcements to the class will be made through the Announcements page on Blackboard, so check it often.

EMERGENCY PREPAREDNESS:
Closure of university facilities and classrooms in response to some emergency does not mean that this class is halted. Students should check Blackboard for announcements about how the class will proceed in the event of such an emergency.