CSC 506 (OO Programming and Data Structures) — prerequisite: instructor consent

INSTRUCTOR: Dr. Chenglie Hu, Phone: (262) 524-7170, E-mail: chu@carrollu.edu
OFFICE HOURS: Mon.: 5:00-6:00pm (CGS Rm 112), Th.: 10-12pm (main campus, Charles House 201)

COURSE OBJECTIVES: In light of Carroll College MSE Program Goals:
1. Apply sound software engineering principles and methodologies in any software development process regardless of roles students may play
2. Problem-solve at a higher level using enterprise resources, major web development frameworks, and sound software design methodologies.
3. Be competitive in making sound judgment on any IT issues that relate to software development
4. Meet challenges of a software development process as information technologies advance
5. Be self-motivated and highly effective players in any team environment

Upon completion of the course, the students will (1) be able to implement fundamental data structures and searching/sorting algorithms; (2) be able to apply data structures and search/sorting algorithms in problem-solving; and (3) further their understanding of the object-orientation programming paradigm.

TEXT: Programming Abstractions in Java by Eric Roberts

COVERAGE: We will follow closely the chapters, but the following is a list of topics that will be covered or likely be covered if time permits:
1) Java fundamentals; 2) OO review; 3) Inheritance / Interfaces; 4) OO Problem Solving; 5) Lists; 6) Review, Stacks, Queues; 7) Sorted Lists; 8) Recursion; 9) Binary Trees; 10) Hashing; 11) Algorithm Efficiency; 12) Flexible Material

TESTS Two exams will be given. For unforeseeable conflicts, make-up exams will be arranged. The final exam will be on the December 18th at 6:00pm.

TEACHING METHODS:
1. Class participation, while no specific point amount assigned to it, will be taken into consideration when determining a semester grade at instructor’s discretion.
2. Lectures are based on class demonstrations and PowerPoint presentations, and are usually in an interactive manner. Important material from the text and outside sources may be covered in class. Discussion is strongly encouraged as is student-procured outside material relevant to the topics being covered.

ASSIGNMENTS: Programming assignments (total number of assignments: around 10) are weekly assigned, and is normally due one week after it was assigned. A programming assignment typically involves applying programming knowledge and techniques being currently discussed. Late assignments are not accepted without consent from the instructor.

Assignments are accepted in hard copies with the following format, while electronic program files may be requested as needed.

To assemble an assignment, the following pages should be stabled together in that order:

a. The assignment sheet (the handout)
b. Description of whether or not each item of the assignment has been completed successfully. If not, describe the reasons and the difficulties you had. You may also ask questions related to the assignment, and you will get answers when you get your assignment back.
c. A screen capture of an execution of the program
d. A brief description of the test cases/data you used (although testing scenarios may be given sometimes).
e. The hard copy of your source code, which I can make comments on. Please highlight the code that you produced if you used existing code as the starting point of the assignment.

GRADING POLICY: Exams (50%) and programming assignments (50%) will be used to determine a semester grade. Grades cutoffs will be no stricter than 90%, 80%, 70%, and 60%. (AB: 85%-89%, BC: 75%-79%) Excessive absence (more than a week of classes) will result in grade reduction at instructor’s discretion.

ADDITIONAL INFORMATION:
**ACADEMIC HONESTY:**

Although discussion outside classroom is encouraged, all the programming assignments must be completed independently. Copying other people’s work, if found, will result in zero credit for both parties involved. Repeated copying other people’s work will result in failure of the course, in addition to other school penalties that may apply.

*The Carroll University Academic Integrity Policy is located in the student handbook—http://www.carrollu.edu/campuslife/shstudenthb.asp?nav=5769. Please familiarize yourself with it. Carroll University emphasizes that students have an obligation to conduct their academic work with honesty and integrity. All acts of academic misconduct are serious. If you have any questions about appropriate citations, please ask.*

(2) Walter Young Center provides personal counseling and disability services. Contact the WYC with questions at (262) 524-7335 or e-mail wyc@carrollu.edu.

(3) The instructor and the University reserve the right to modify, amend, or change the syllabus (course requirements, grading policy, etc.) as the curriculum and/or program require(s).