Fall 2012

CS 3100/5100: Data Structures and Algorithms

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Room and Time: 2 pm - 3:20 pm TR, Russ 150
Office Hours: 3:30 – 5:00 pm TR, or by appointment.

Course Description: This course will cover the fundamentals of algorithm design and analysis, the implementation of classical data structures and control structures, and the basic problem solving techniques.

Textbook: Data Structures and Algorithms in C++ by Adam Drozdek (3rd or 4th edition)

Prerequisite: CS242 (in the quarter system)

Grading: Midterm Exam = 20%
Final Comprehensive Exam = 30%
Programming Assignments (3) = 30%
Homework Assignments (5) = 20%
Programming exercises: not graded

90 – 100 = A; 80 – 89.9 = B;
70 – 79.9 = C; 60 – 69.9 = D;
< 60 = F

I may curve the final letter grades based on the overall distribution of scores.

Web Page: All materials will be hosted on Pilot (pilot.wright.edu)

Covered topics:

<table>
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<tr>
<th>Topics</th>
<th>Reading assignments</th>
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1. Introduction, review C++ and linux, simple sort algorithms  Chapter 1, 9.1
2. Big O notation, algorithm analysis  Chapter 2.1-2.8
3. ADT, list, stack, queue, recursion  Chapter 3.1,3.2,4.1,4.2,5.1,5.2
4. tree basics, binary trees  Chapter 6
5. multiway trees  Chapter 7.1.1, 7.1.3, 7.1.6
6. graph basics  Chapter 8.1-8.2, 8.5
7. graph algorithms  Chapter 8.5,8.7,
8. sorting  Chapter 9.3.2-9.3.4
9. hashing  Chapter 10.1,10.2,10.5
10. applications

### Policies:

1. No assignment will be accepted after the due date.
2. The assignment must be done individually.
3. The following is not allowed:
   - **Cheating**
     The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. Any student helping another cheat may be found guilty of academic misconduct.
   - **Plagiarism**
     The deliberate use and appropriation of another’s works without any indication of the source and the representation of such work as the student’s own. Any student who fails to give credit for the ideas, expressions or materials from another source, including internet sources, is guilty of plagiarism.
4. Students are expected to attend all classes. In the event that a student misses a class, he/she is responsible for all material covered in the class, including all assignments and announcements.
5. Late arrival to the classroom disturbs everyone. Please do not be late, but if you are unavoidably delayed, join the class quietly and with minimal disturbance.