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Spring 2013

## CS 3100-02/5100-02: Data Structures and Algorithms

Keke Chen

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CS 3100/5100 – DATA STRUCTURES AND ALGORITHMS  
02  
SPRING, 2013

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**Instructor:** Dr. Keke Chen  
385 Joshi  
937-775-4642  
keke.chen AT wright.edu

**Room and Time:** 4:40 pm - 6:00 pm MW, Math and Microbiology 171

**Office Hours:** 2:30 – 4:00 pm MW, 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 (3<sup>rd</sup> or 4<sup>th</sup> edition)

**Prerequisite:** CS1181 and CEG2350 and CEG3310 and (MATH2570 or CS2200)

**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 will 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:**

Topics	Reading assignments
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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.