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Fall 2008

### CS 400/600: Data Structures and Software Design

Keke Chen

*Wright State University - Main Campus, keke.chen@wright.edu*

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CS 400/600 – DATA STRUCTURES AND SOFTWARE DESIGN  
FALL, 2008

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

**Room and Time:** 6:05 pm - 7:20 pm Mon/Wed, Math & Mic Biology 171

**Office Hours:** Monday 3:00 – 5:00 pm, Wednesday 4:00-5:00 pm, or by appointment.

**Teaching Assistant:** TBA

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

**Textbook:** Data Structures and Algorithms in C++, by M. Goodrich, R. Tamassia, and D. Mount, John Wiley & Sons, 2004

**Prerequisite:** CS242

**Tentative Lecture Schedule:**

Week	Topics	Reading
1	Introduction; Principles of software design; Arrays, Lists;	Ch. 1, 2
2	Stacks, Queues; Recursion; Introduction to algorithm analysis	Ch. 4,5,3
3	Binary Trees: definition, implementation, traversal	Ch. 6
4	Search Trees	Ch. 9.
–	<b>Midterm Exam:</b> Monday, Oct. 6, 6:05-7:20 pm, MM171	–
5	Hashing	Ch. 8
6	Text processing and Tries	Ch. 11.1, 11.3
7	Graphs: definitions, implementation, traversal	Ch. 12.1 – 12.5
8	Graph applications: shortest paths, spanning trees	Ch. 12.6 – 12.7
9	Sorting: internal and external	Ch. 10
10	Indexing: linear indexing, tree-based indexing	–
–	<b>Final Exam:</b> Wednesday, Nov. 19, 8:00-10:00 pm, MM171	–

**Grading:** Midterm Exam = 30%  
Final Exam = 30%  
Programming Assignments (3) = 30%  
Homework Exercises (4) = 10%

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:** <http://www.cs.wright.edu/~keke.chen/cs400> – Check this page often for announcements, assignments, and other important information.

### **Policies:**

1. No assignment will be accepted after the due date.
2. All assignments 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.