Fall 2008

CS 400/600: Data Structures and Software Design

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

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.


Prerequisite: CS242

Tentative Lecture Schedule:

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