COMPSCI 242-001 Data Structures and Algorithms (Spring 2004)

Instructor: Dr. Jyh-haw Yeh

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Office Hours:  Mon: 1:30pm–3:00pm  Wed: 1:30pm–3:00pm

Class Time: TTH 10:40am-12:30pm  Location: ET 104

Textbook:


Course Objectives

At the end of the course, students will be capable of

• applying the most efficient known algorithms to solve problems such as searching, sorting, scheduling, and optimization.

• choosing appropriate data structures to implement algorithms.

Catalog Description

Basic data structures (continued from COMPSCI 225), introduction to design and analysis of algorithms, fundamental algorithms for sequences, sets, graphs and combinatorial problems, introduction to complexity of problems and to parallel and distributed algorithms. Examples are drawn from various areas of computer science.

Prerequisites

• COMPSCI 225: Introduction to Computer Science II

• MATH 170: Calculus I

• MATH 187: Discrete and Foundational Mathematics I

Course Outline Topics:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Number of Lectures</th>
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</thead>
<tbody>
<tr>
<td>Chapter 2, 3, 4</td>
<td>5</td>
</tr>
<tr>
<td>Chapter 6, 7, 8</td>
<td>5</td>
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<tr>
<td>Chapter 10, 11, 12, balanced search tree(s)</td>
<td>6</td>
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<tr>
<td>Chapter 15, 16</td>
<td>6</td>
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<tr>
<td>Chapter 22, 23, 24</td>
<td>8</td>
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Grades and Grading Policies

Grading:
- Homeworks/Programs: 40%
- Test 1: 15%
- Test 2: 15%
- Final: 30%

Final Grade: You are guaranteed to receive at least the grade as follows (I reserve the right to lower the cutoffs if I feel it is appropriate).
- A: $90 \leq x \leq 100$
- B: $80 \leq x < 90$
- C: $70 \leq x < 80$
- D: $60 \leq x < 70$
- F: $x < 60$

Grading Policy:
- Homeworks will not be accepted late.
- Programming assignments must be submitted electronically to the instructor by 11.00PM of the due date to avoid any penalty. Every extra 10% (accumulated) late submission penalty will be incurred for every class past after the deadline. 50% is the maximum accumulated penalty. For example, suppose the deadline is on Tuesday of week 5, the following table shows the late submission penalty.

<table>
<thead>
<tr>
<th>Turn in before</th>
<th>Penalty</th>
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<tbody>
<tr>
<td>Tuesday 11.00PM (week 5)</td>
<td>0%</td>
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<tr>
<td>Thursday 11.00PM</td>
<td>10%</td>
</tr>
<tr>
<td>Tuesday 11.00PM (week 6)</td>
<td>20%</td>
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<tr>
<td>Thursday 11.00PM</td>
<td>30%</td>
</tr>
<tr>
<td>Tuesday 11.00PM (week 7)</td>
<td>40%</td>
</tr>
<tr>
<td>Thursday 11.00PM</td>
<td>50%</td>
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</table>

All students should submit correct and complete files to the instructor. Any accidentally wrong or incomplete submission may need to submit again and incur some late submission penalty.

The points you can get for incorrect programs are as follows.
- Can not be compiled or run time error: no points.
- Wrong answer: Varying from 0% to 80% points depends on the answer.

Collaboration: Each student must work independently unless specified otherwise.