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Fall 2006

CS 400/600: Data Structures and Software Design

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Wright State University - Main Campus

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CS 400/600, Data Structures and Software Design

Syllabus: Fall 2006

Time: Monday, Wednesday, 4:10 pm to 5:25 pm

Class Room: 380 Joshi on Mondays

144 Rike on Wednesdays

Instructor: Professor Natsuhiko Futamura

Office: 335 Russ Engineering Center

Email: natsuhiko.futamura@wright.edu

Phone: 775-5107

In this course, students will learn basic data structures and how to design and analyze and implement software. Course covers introduction to the fundamentals of complexity and analysis and study of common problems and solutions using various data structures. After taking this course, students are expected to be able to design reasonable software for problems and estimate (evaluate) the performance of them even without writing the software.

Text book: A practical Introduction to Data structures and Algorithm Analysis 2nd edition, C.A. Shaffer. Prentice Hall.

Topics: The topics covered in the course include the following:

- Introduction to algorithm analysis. Chapter 1,2
- Lists, Stacks and Queues Chapter 4
- Algorithm Analysis Chapter 3
- Trees Chapter 5, 6
- Sorting Algorithms Chapter 7,8
- Searching Chapter 9
- Graph Algorithms Chapter 11
- Indexing Chapter 10

Office Hours: Monday, Wednesday 2:30PM to 4:00PM at my office at 335 Russ Engineering Center. Or, by appointment.

You can use phone or e-mail to ask short question such as "What was today's homework assignment?" But, please come to see me for longer technical questions.

Exams: A midterm exam and a final exam are given during the quarter. Some portion of the exam may be given as a take-home exam or programming assignment.

No make-up exams are provided except for documented emergencies. Examples of acceptable documentation are a letter from a doctor (on his/her letterhead) indicating that you were unable to take the exam due to illness or a letter from an employer indicating that you will be out of town on company business at the scheduled exam time.

All exams are closed book. However, students are allowed to bring one sheet of paper as a cheating sheet.

Graduate students have to demonstrate deeper understanding of the topic and will solve harder problems in the examinations.

Tentative exam dates are:

Midterm Monday, Oct 7, In class exam

Final exam Monday, Nov 13 , 5:45-7:45PM

Grading: The grades will be based on programming assignments, midterm, and a final exam. programming assignments carries 20%, Midterm carries 40%, and final exam carries 40% of the total score.

A - 80% or above

B - 70% - 79%

C - 60% - 69%

D - 50% - 59%

F - below 50%

The letter grades are not intended to be curved; however, I reserve the right to curve the final grades based upon the final point distribution.

A missed exam counts as a 0. The grade A indicates excellence: To receive an A, you must demonstrate a thorough knowledge of the material throughout the course.

There will be no grades of incomplete given except when documented emergencies have made it unable for the student to finish the course.

Course Web Page:

<http://www.cs.wright.edu/~nfutamura/CS400/>

Homework: Homework assignments are given occasionally to help students prepare for exams.

Students are encouraged to work together on the homework problems. This makes solving problems more enjoyable and I expect students to learn better by sharing ideas with other students. The absolute (as opposed to relative) grading scale is designed to encourage students to work together. The results of the other students in the class will not affect your grade: thus help others and get help from others yourself.

Attendance: Attendance at classes is strongly recommended. It is your responsibility to get class notes from other students and prepare for the next class if you miss a class. As is mentioned above, there is no make-up exam except for documented emergencies.