CS 340 Data Structures and Algorithms
Fall 2009

Instructor: Dr. Yun Wang
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Office Hours:
- Tuesday & Thursday 10:00am~ 11:59am
- Other time slots by appointment (Please specify "*CS340*" in the subject field if using email)

Class Meeting Room: EB 1012

Class Meeting Time: Tuesday & Thursday 6:00pm – 7:15pm

TA: Zhendong Lun (Email: zlun@siue.edu). Office hours: Wednesday 2:00pm to 3:00pm in EB1036

Textbooks:
- Title: "Data Structure and Algorithm Analysis with C++", 2nd edition, by Mark Allen Weiss, Addison Wesley Publishing (primary)
- Title: Algorithms: sequential, parallel, and distributed, 2nd edition, by Kenneth A. Berman, Jerome L. Paul. Publisher: Thomson/Course Technology, c2005. ISBN: 0534420575 (secondary)

Course Prerequisites:
- CS 240, Math 150, and Math 224

Course Objective:
- Considers appropriate choice of data structures, comparisons of algorithms, recursive algorithms, complexity, and introduction to parallel algorithms.

Grading:

	Weight:
Attendance	5%
Assignments	25%
Quizzes	10%
Two Midterm Exams	15%+20%

Final Exam	25%

F< 60 ≤ D < 70 ≤ C < 80 ≤ B < 90 ≤ A

General Policies:

- Students are required to attend all classes. You are excused from class attendance only in cases of severe medical or family hardship and documented evidence is required. Being <u>Late</u> for more than 5 minutes will be counted as absent for the class. Leaving class early without acceptable reason will also be counted as an absence for the day.

- Independent work is required for all homework and programming assignments.

- Course grades will not be posted for reasons of privacy.

- Students involved in any academic cheating will result in a grade of **F** for the course. Please refer to Student **Academic Code - 3C2** http://www.siue.edu/policies/3c2.shtml. For example:

    1) Submitting work (such as homework assignments and projects) done by somebody else (this includes any human/electronic sources, such as web sites) under your name.

    2) Watching and copying your neighbors' solutions during quizzes and exams.

    3) Modifying your solutions after they are graded.

    4) Using materials not allowed during quizzes and exams.

Exams and Quizzes:

- There will be Three exams (i.e., two midterms and one final), and Several pop Quizzes

    1) **Closed textbook** and **closed notes**. Calculator is allowed.

    2) Independent work, no discussion and cooperation

    3) **Absence** will result in zero point, No makeup for midterm and Quizzes.

    4) With prior notice and **documented evidence**, one makeup test can be made for the final.

Assignments:
- Homework

    1) Late homework will NOT be accepted for grading.

- Programming assignments

    1) Students are required to hand in a "gradable" program for each programming assignment. A program is considered "gradable" if and only if

        a. It compiles and runs correctly on the simplest of test data.

   b. It is accompanied by appropriate documentation, which is minimally complete and applicable to the particular assignment.

  2) Students are responsible to thoroughly test the program before submitting for grading.

  3) Late programming assignments will be penalized 30% per day, up to 3 days.

Tentative Class Schedule (subject to change):

Week#	Date	Topic	Week#	Date	Topic
1	Aug. 25 (T)	**Introduction**	9	Oct. 20 (T)	**Disjoint Sets**
	Aug. 27 (R)	**Algorithm Analysis**		Oct. 22 (R)	**Union Algorithms**
2	Sept. 1 (T)	**Algorithm Analysis**	10	Oct. 27 (T)	**Review #2**
	Sept. 3(R)	**Lists, stacks**		Oct. 29 (R)	**Exam #2**
3	Sept. 8 (T)	**Queues, Binary Trees**	11	Nov. 3 (T)	**Graphs**
	Sept. 10 (R)	**AVL Trees**		Nov. 5 (R)	**Shortest Path Algorithms**
4	Sept. 15 (T)	**B-Trees**	12	Nov. 10 (T)	**Shortest Path Algorithms**
	Sept. 17 (R)	**Exam #1 Review**		Nov. 12 (R)	**Spanning Tree Algorithms**
5	Sept. 22 (T)	**Exam #1**	13	Nov. 17 (T)	**NP**
	Sept. 24 (R)	**Hashing**		Nov. 19 (R)	**Greedy Algorithms**
6	Sept. 29 (T)	**Probing and Rehashing**	14	**Thanksgiving Break!!**	
	Oct. 1(R)	**Priority Queues**			
7	Oct. 6 (T)	**Heap Operations**	15	Dec. 1 (T)	**Divide and Conquer Algorithms**
	Oct. 8 (R)	**Sorting Algorithm**		Dec. 3 (R)	**Dynamic Programming**
8	Oct. 13 (T)	**Sorting Algorithm**	16	Dec. 8 (T)	**Randomized Algorithms**
	Oct. 15 (R)	**Sorting Algorithm**		Dec. 10 (R)	**Review**
17	**Final Exam** **Will be scheduled by the University**				

Course syllabus last modified on Aug. 17, 2009.