

CS535 Algorithm Design and Analysis
Fall 2009, MW 9:30–10:45am, EMS E145
<http://www.cs.uwm.edu/classes/cs535>

1 Prerequisite

C or better in CS 317 and in CS 351.

2 Instructor Info

Instructor: Christine Cheng, EMS 1011, 229-5170, ccheng@uwm.edu.
Office Hours: M 2-3pm, T 9:30-10:30am, or by appointment.

3 Textbook:

M. Goodrich and R. Tamassia, *Algorithm Design: Foundations, Analysis and Internet Examples*, John Wiley and Sons, Inc.

4 Objectives:

CS 535 is an introduction to data structures and algorithms commonly used in programming. At the end of this course you should be able to

- describe and use the basic data structures in Computer Science, and evaluate their performances in different situations,
- theoretically analyze the time complexities of algorithms,
- design and prove the correctness of efficient algorithms for many problems that arise in Computer Science.

5 An Outline

1. Framework for Algorithm Analysis, Sections 1.1-1.4.
2. Basic Data Structures, Chapter 2
3. Advanced Data Structures, Chapter 3
4. Sorting, Sets, and Selection, Chapter 4
5. Fundamental Techniques in Algorithm Design, Chapter 5
6. Graph Algorithms, Chapter 6
7. Weighted Graph Algorithms, Chapter 7

6 HWs, Exams, and Grading Scheme

Homeworks. Homeworks will be assigned every week. *No homeworks will be accepted after the deadline.* Those assigned to graduate students will differ from those assigned to undergraduate students by at least one problem.

You are allowed to collaborate with your peers. However, you must write up the solutions on your own and cite your collaborators. **If you obtained your solution from a book, website, etc., you must indicate the title of the book and page no., the address of the website, etc.** Deductions will be made if this policy is violated.

Exams and Finals. There will be one midterm exam and one final exam. Again, the exams of graduate students will differ from those of undergraduate students by at least one problem.

A tentative Grading Scheme. Your grades will be based on the scores of homeworks (H), midterm exam (M) and final exam (F). The final grade will be computed as follows: $\max(H, M, F)$ will be assigned a weight of 40%; the remaining two scores will be given a weight of 30% each. Active participation in class will be taken into account when your final score is in between two letter grades (e.g., between a B and a B-, etc.).

In case of an emergency, contact the instructor at the earliest possible opportunity via e-mail or phone. No arrangements will be made for missed exams unless these rules are followed, and an acceptable evidence of legitimate emergency is submitted.

7 Academic Misconduct

Copying someone else's work in a homework or an exam is academic dishonesty. It will be dealt with severely. For more information, check the website

www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm.