

CS535 Algorithm Design and Analysis  
Spring 2011, TR 4:00–5:15 pm, CHM 180  
<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](mailto:ccheng@uwm.edu).

Office Hours: Th 2-4 pm , 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

Grades will be posted on the D2L page for this class.

*Homeworks.* Weekly homework will be posted on the class webpage every Thursday and is due the following Thursday in class. *No homeworks will be accepted after the deadline.* On the other hand, the lowest two or three homework grades will be dropped at the end of the semester.

You are allowed to collaborate with your peers *but* 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.

*A tentative grading scheme.* Your grades will be based on the scores of your 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](http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm).