

CSE 780: Analysis of Algorithms

Spring 2011

MWF 11:30-12:18 am, DL266

Instructor: Steve Lai Office: 581 Dreese Labs
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Course Summary: Algorithm design paradigms; mathematical analysis of algorithms; design and analysis of graph algorithms.

Objectives: Students will:

1. Augment their “tool box” of algorithm design techniques.
2. Learn how to analyze the efficiency of algorithms.
3. Learn how to design and analyze graph algorithms.

Text: *Introduction to Algorithms*, second or third edition, by Cormen, Leiserson, Rivest, Stein. McGraw Hill..

Prerequisites: CSE 680 or equivalent.

Sequence of Topics:

1.5 weeks	Mathematical foundations	Sections 1.1, 1.2, 2.2, 3.1 (2nd edition)
2.0 weeks	Divide-and-conquer	Sections 2.3, 4.1, 4.2, 4.3, 33.4 (2nd edition)
3.0 weeks	Dynamic programming	Chapter 15, 25.2 (2nd edition)
1.5 weeks	Greedy algorithms	Section 16.1–16.3, Chapter 23 (2nd edition)
2.0 weeks	Graph algorithms	Chapters 22 (2nd edition)

Grading: Homework 20%; 2 Midterm Exams 50%; Final Exam 30%; Attendance, bonus.

Exam Schedule:

- Midterm Exam I: Monday, April 25.
- Midterm Exam II: Monday, May 16.
- Final Exam: Thursday, June 9, 11:30am-1:18pm.

General Policy:

- Late homework will not be accepted.