

CSE 780: Analysis of Algorithms

Autumn 2008

MWF 9:30-10:18 am, BO428

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 (optional): *Introduction to Algorithms*, second edition, by Cormen, Leiserson, Rivest, Stein. McGraw Hill 2002.

Prerequisites: CSE 680 or equivalent.

Sequence of Topics:

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

Grading: Homework 20%, 2 Midterm Exams 50%, Final Exam 30%

Exam Schedule:

- Midterm Exam I: Friday, October 24.
- Midterm Exam II: Friday, November 14.
- Final Exam: Tue, Dec 9, 9:30-11:18am.

General Policy:

- Late homework will not be accepted.