

**CSE 680: Introduction to Analysis of Algorithms and Data Structures
Spring 2009**

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COURSE SUMMARY: Performance analysis considerations in design of algorithms and data structures; Order of magnitude analysis, recurrence relations, probabilistic analysis, divide and conquer; searching, sorting and graph processing analysis.

PREREQUISITE: CSE 560; STAT 427; and MATH 566

TEXT (optional): *Introduction to Algorithms, Second Edition* by Corman, Leiserson, Rivest and Stein.

SEQUENCE OF TOPICS:

1. Analyzing algorithms (Chapter 2.2)
2. Asymptotic notation (Chapter 3)
3. Divide-and-conquer (Section 2.3).
4. Recurrence relations (Sections 4.1, 4.2)
5. Heapsort and priority queues (Chapter 6)
6. Quicksort (Chapter 7)
7. Elementary graph algorithms (Chapter 22)
8. Minimum spanning trees (Chapter 23)
9. Shortest paths (Sections 24.3, 25.2)

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

Exam Schedule:

- Midterm Exam I: Monday, April 27.
- Midterm Exam II: Friday, May 15.
- Final Exam: Wednesday, June 10, 1:30-3:18 pm.

General Policy:

- Late homework will not be accepted.