CSE 421
Introduction to Algorithms
Course Organization

Winter 1999 | Handout 1

W. L. Ruzzo | 4 Jan 99

Time: MWF 11:30-12:20

Place: EEB 108

Course Web: `http://www.cs.washington.edu/education/courses/421/`

Mailing List: Required. Mail to majordomo@cs saying "subscribe cse421", or use the mailto link on the course home page.

Instructor/TA:

Larry Ruzzo	Sung-Eun Choi
Sieg 415, 543-6298	Sieg 226A
ruzzo@cs.washington.edu	sungeun@cs.washington.edu
Office Hours: MF 12:30-1:20	Office Hours: W 9:30-11:20

Prerequisites: CSE 322 and 326

Text: *Introduction to Algorithms*, Cormen, Leiserson, and Rivest, McGraw–Hill, 1990.

Grading: There will be written homework assignments (about weekly), a midterm or two, and a final. There will possibly be one or more programming projects as part of the homework. Relative weights *approximately* 40%, 20%, 40%.

You may work together on homework, but you must write up your solutions independently. Do not use written notes from discussions when you write your solutions.

....

Catalog description: Techniques for the design of efficient algorithms. Methods for showing lower bounds on computational complexity. Particular algorithms for sorting, searching, set manipulation, arithmetic, graph problems, pattern matching, etc.

Objectives: Learn basic techniques for design and analysis of algorithms, including correctness proofs. Learn a number of important basic algorithms. NP-complete and other intractable problems.

Main Techniques:

Design: Divide and Conquer, Dynamic Programming, Greedy, Graph search.
Analysis: Asymptotic Analysis, Recurrences.
Intractability: Reduction.

....

Reading Assignments: We're going to skip around. We'll give weekly updates, but the *rough, tentative* plan is as follows:

Week 0. Background and Review: Ch 1–2, 11–13. Spend 5 minutes skimming Chapter 5 so you can refer back when needed. Review balanced search trees (e.g., AVL trees, splay trees, red-black trees (ch 14), and/or B-trees (ch 19)), and sorting (ch 7–9), as covered in your version of CSE 326.

Weeks 1–2. Divide and Conquer: Ch 8, 10, 31, 32.

Weeks 3–4. Dynamic Programming: Ch 16, 26.

Weeks 5. Greedy Algorithms: Ch 17, 24.

Weeks 6–8. Graph Search and other Graph Algorithms: Ch 23, 25, 27.

Weeks 9–10. NP-Completeness and Intractability: Ch 36, 37.

Time Permitting: Ch 18, 30, 33, 34, 35, etc.

....