There will be a Blackboard course web site at: http://online.sfsu.edu/. The site will include announcements, discussions, and explanations of some course material.

**Instructor:** Robert E. Wall  
Office: TH961  
Hours: MW1:00-2:30  
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**Description:**  

**Prerequisites:** Pass GET or enrolled in SCI 614, B or better in CSC 510 (or equivalent)

**Grading:**  
There will be one midterm exam and one final, as well as in-class presentations by students of assigned homework problems and reports on assigned topics from the literature.

The exams and reports will have the following weights:  
Midterm 100 pts; Final Exam 200 pts; Reports 50 points; Total 350 pts  
Grading Scale:  
Total >= 85% A-to A; 65%-84% B-to B+ ; 50%-64% C-to C+ ; >= 55%; 0%-49% D/E/F.  
Note: I do look favorably at improvement on the final and can adjust a grade slightly for an excellent score on the final exam.

**Exams:** Midterm – Tuesday, October 17; Final Exam – Tuesday, December 19.


**Additional reference books:**  

**Withdrawals:**  
I follow University policies with regard to withdrawal from a course, i.e., drop and withdrawal from courses are student responsibilities.

**Missed Exams:**  
Generally, there will be no make-up exams and no incomplete grades given. If you miss an exam, you must notify the instructor before the exam or, if physically impossible, soon after. If any of the scheduled exam dates are in conflict with your religious observances, you must notify your instructor, in writing, during the first two weeks of the semester. If you have an acceptable, documented excuse, you may be given a make-up exam or be given the average score of other exams at the discretion of the instructor.
Topics

Chapter 1: Review all

Homework Assignments
p. 42, Exercises 3, 6, 7, 10, 13, 14, 21, 30, 34

Chapter 2: Review:
- Binary Search
- Mergesort and Quicksort

Read:
- Strassen’s Matrix Multiplication
- Arithmetic with Large Numbers
- Determining Thresholds

Homework Assignments
p. 83, 4, 6, 13, 21, 22, 30-33, 36, 38, 40

Chapter 3: Review
- Binomial Coefficient
- Floyd’s Algorithm
- Traveling Salesperson Problem

Read:
- Chained Matrix Multiplication
- Optimal Binary Search Trees

Homework Assignments
p. 133, 4, 5, 6, 9, 10, 12, 15, 18, 19, 20, 21, 23, 26, 29-34

Chapter 4: Review
- Prim’s and Kruskal’s Algorithms for MST’s
- Dijkstra’s Algorithm
- Knapsack Problem

Read:
- Scheduling
- Huffman Code

Homework Assignments
p. 181, 1, 2, 5, 6, 11, 14, 17, 20, 24-27, 30. 34. 35, 40, 41

Chapter 5: Review
- n-Queens Problem
- Backtracking for 0-1 Knapsack Problem

Read:
- Monte Carlo Algorithm
- Sum-of-Subsets Problem
- Graph Coloring
- Hamiltonian Circuits

Homework Assignments
to be determined

Chapter 6: Review
- Branch-and-Bound

Read:
- Abductive Inference (Diagnosis)

Homework Assignments
to be determined

Chapter 7: Intro. to Computational Complexity: the Sorting Problem

Chapter 8: More Computational Complexity: the Searching Problem

Chapter 9: Computational Complexity and Intractability: An Introduction to the Theory of NP

Chapter 11: Introduction to Parallel Algorithms

Guest Lectures and Student Presentations on Selected Topics