Syllabus
CPSC 658 Randomized Algorithms
Fall 2011
MWF 11:30am-12:20pm, ZACH 105B

Course Description and Prerequisites
The course gives an introduction to randomized algorithms; randomization allows to design efficient algorithms, which are of elegant simplicity; selected tools and techniques from probability theory and game theory are reviewed, with a view towards algorithmic applications; the main focus is a thorough discussion of the main paradigms, techniques, and tools in the design and analysis of randomized algorithms; a detailed analysis of numerous algorithms illustrates the abstract concepts and techniques.

Learning Outcomes or Course Objectives
At the end of this course you should

- know the fundamentals of discrete probability theory;
- know the basic randomized algorithms discussed in this course;
- be able to analyze selected randomized algorithms;
- know the theory of Markov chains;
- are knowledgeable about selected randomized data structures;
- be familiar with the probabilistic method.

Instructor Information

Instructor: Dr. Andreas Klappenecker
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Office: HRBB 509B
Office hours: MT 2:00-2:50pm or by appointment
Textbook

The required textbook for this course is


Prerequisites.

Graduate standing or approval by instructor.

Grading.

The course has one midterm exam, a final project, and homework assignments. The grade will be calculated as follows:

Midterm exam 25%, Project 30%, Assignments 45%

The dates of all major examinations will be announced in class. The course grades will be assigned according to the scale A for 90%-100% of total points, B for 80%-89%, C for 70–79%, D for 60%-69%, and F otherwise. A curve might be applied if the class average is lower than expected.

Americans with Disabilities Act (ADA) Policy Statement

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