

Syllabus: MCS 361

Discrete Mathematics, Spring 2009
28925 LCD - undergrad MWF 10:00-10:50, 214 2DH
Instructor: Shmuel Friedland
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OFFICE HOURS: 12:30-1:30 MW, or by appointment .

TEXT: *Discrete Algorithmic Mathematics* by Stephen B. Maurer and Anthony Ralston, Third Edition, 2004, A K Peters.

PREREQUISITE: *Grade C or better in*, MATH 215, (Introduction to Advanced Mathematics); MCS 260, (Introduction to Computer Science), or CS 102, (Introduction to Programming).

OUTLINE OF THE COURSE

This course devoted to discrete mathematical structures used in computer science, mathematics, engineering, biology and mathematical finance. It will discuss the following topics: sets and relations; induction, recursive definitions and relations, methods of proof, quantifiers; counting; graphs and trees; algorithms.

The course will cover tentatively Chapters Zero-Four, and *may be some material from Chapter 5* from the text book.

Rough schedule of lectures:

- *Prolog and Chapter 0* - 2 weeks.
- *Chapter 1* - 2.5 to 3 weeks.
- *Chapter 2* - 3 weeks.
- *Chapter 3* - 3 weeks
- *Chapter 4* - 3 weeks
- *Selected topics from Chapter 5* - whatever time permits.

GRADING:

1. Quizzes and Homework - 15%. (Usually there would be 10 minutes quiz in the end of the class once a week, except the first week of classes, and the exam weeks.)
2. Two Exams - 20% each.
3. Final Exam - 45%.

Homework: *Should be handed in the first class of each week, starting from the second week. No late homework assignment will be accepted.* Students encouraged to study together, but **Each** must write out their solution to assigned problems. Homework assignment will be posted on the web:

<http://www.math.uic.edu/~friedlan/teaching.html>