Illinois Institute of Technology
Department of Computer Science

**Course Information**
CS 330 Discrete Structures  
Spring Semester, 2019

**Staff**

Professor: Edward M. Reingold (reingold@iit.edu)  
Office: Suite 228F Stuart Building, (312) 567-3309  
Office Hours: Monday & Wednesday, immediately after class, or by appointment

Teaching Assistants:  
Linlin Chen (lchen96@hawk.iit.edu)  
Office Hours (SB019A; 312-567-5569): Monday & Thursday, 12pm–5pm  
Jianwei Qian (jqian15@hawk.iit.edu)  
Office Hours (SB019A; 312-567-5569): Friday, 12:30pm–5:30pm

**Lecture Schedule**

Class meets from January 14 to May 4, Mondays and Wednesdays, 11:25am–12:40pm in 104 Stuart Building; there is a recitation section with the TA on Fridays, 11:25am–12:15pm, in the same location.  
There will be no classes on January 21 (Martin Luther King Day) and March 18–22 (Spring Break).

**Textbook**


**Prerequisites**

You are presumed to have a good command of computer programming, high school mathematics, and basic differential & integral calculus.

**Course Outline**

- **[1 lecture, Jan 14]** Introduction (notes).
- **[2 lectures, Jan 16–23]** Mathematical Reasoning (Rosen, Chapters 1, 2, & 5).
- **[5 lectures, Jan 28–Feb 11]** Counting & Binomial Theorem (Rosen, Chapter 6).
- **[1 lecture, Feb 13]** Analysis of polynomial evaluation (notes).  
  Exam I, Feb 18
- **[5 lectures, Feb 20–Mar 6]** Probability (Rosen, Chapter 7).
- **[3 lectures, Mar 18–25]** Recurrences (Rosen, Chapter 8; notes).
- **[1 lecture, Mar 27]** Divide & Conquer (Rosen, section 8.3; notes).  
  Exam II, Apr 1
- **[1 lecture, apr 3]** Greedy Algorithms (Rosen, section 3.1.5; notes).
- **[3 lectures, Apr 8–15]** Graphs (Rosen, Chapters 10–11; notes).
- **[4 lectures, Apr 17–29]** Finite-State Machines, CFLs, BNF (Rosen, Chapter 13; notes).  
  Exam III, May 1
Reading Assignments
Using the course outline as a guide, please read the stated chapters before the day in which that subject is covered. These reading assignments are very important for understanding the lectures and homework.

Lecture Notes
Lecture notes will be available on the class webpage shortly before or after the lecture. This is for your convenience, but it is not a substitute for attending the lectures—there is no guarantee that the notes are complete (or even correct!).

Homepage and Handouts
All handouts will be in PDF on the class webpage at: [www.cs.iit.edu/~cs330](http://www.cs.iit.edu/~cs330). This web site may be used to post announcements, so look at it frequently.

Homework
There will be 7 or 8 homework assignments, all due via Blackboard Fridays by 6pm. You may discuss only general problem-solving strategies with other students; your homework solutions must be entirely your own work and clearly distinguished from other homeworks. Academic dishonesty will be not be tolerated and will severely punished. Homework handed in late will be be penalized 25% per day or fraction thereof.

Examinations
There will be three equally weighted, non-cumulative, open-book, in-class exams:
- Exam 1: Monday, February 18, 2019
- Exam 2: Monday, April 1, 2019
- Exam 3: Wednesday, May 1, 2019
There is no final exam.
During the lectures certain problems will be noted as “good exam questions.” Some of these problems may appear on exams.

Electronic Devices
No electronic devices (calculators, laptops, Ipads, cell phones, etc.) may be used in lectures except by special permission of Professor Reingold. None are ever allowed in the open book exams.

Bugs
Occasionally Professor Reingold, being human, makes mistakes in lectures. If you catch one, and point it out on the spot in lecture, you’ll be rewarded with a very valuable glow-in-the-dark plastic bug. Aside from its intrinsic beauty and value, it is worth extra credit toward your final grade: On “Bug Day” at the end of the semester, bring your collection in to be counted and noted in the grade records.

Grading Policy
The approximate weighting scheme will be 25% for the homework assignments and 25% for each of the exams.

Grade Distribution
The last time that Professor Reingold taught CS 330 (Fall, 2017), the distribution of final grades was 21 A, 24 B, 15 C, 11 D, and 4 E; 8 students dropped the course.