

CSCI 241H:

Discrete Structures for Computer Science, Honors

FALL 2013

Instructor: Funda Ergun (fergun@indiana.edu).

Office: LH 323. Phone: TBA

Hours: MW 2:30 –3:45 SY003, Lab F 9:05 – 11:00 Informatics East 1 22.

Office Hours: By appointment, will try to have them before class.

Web Page: TBA, will be accessible from instructor's webpage.

What this class is about: It will give you the mathematical foundations for understanding and analyzing computer science concepts, including algorithms, programs, running times, and structures. In order to solve any mathematical (or computer science related) problem you need to learn to analyze your problem, model it, come up with a solutions, and analyze your solution . This course will give you the understanding as well as the tools to do that.

Prerequisites: CSCI-C 211. MATH-M 211 is recommended.

Text: I will use, but not stick all the time to Kenneth H. Rosen. Discrete Mathematics and its Applications.

Topics: In not necessarily this order:

- Logic, formulas, and proofs. How do we make a claim and then prove it?
- Sets
- Graphs
- Algorithms (important) – correctness and efficiency.
- Induction and Recursion
- Counting
- Probability and a bit of statistics
- Any suggestions from the class?

Grading: Two midterms, 25% each, final 30%, homeworks 20%.

Grading Policy: Please read IU's policies on academic integrity. You can discuss homeworks, but you need to write them up yourselves and put down the names of the people that you discussed them with. If there are any discrepancies, that is cause for questioning the integrity of the particular assignment.

The penalty for a late homework is $10 \cdot (\text{late days})^2$, i.e., 1, 2, and 3 day late homeworks will lose 10, 40, and 90 points respectively. This is not to torture you, but so that there is plenty of time to post the solutions. In case of extenuating circumstances, please inform the instructor in advance.

If you would like to do something extra for the class (not just extra work, but something on an advance topic, or branch into a challenging area, etc.), you can discuss that with the instructor and possibly get a small bonus. This should happen not after week 7 or so – this is NOT a way of improving your grade if your midterm grade is not satisfactory to you; this is so that you can find additional challenge in the class if you seek it.