

**CSCI 241:**  
**Discrete Structures for Computer Science**  
SPRING 2014

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

**Office:** LH 323. Best way to reach: email.

**Office Hours:** tuesdays after class, LH323.

**Web Page:** 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.

**Tentative 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
- Counting
- If time permits: robability and a bit of statistics

**Grading:** One midterm, 35%, final 40%, homeworks 25%.

**Grading Policy:** Please read IU's policies on academic integrity. You should be doing all your work independently and individually. If you are using anything that you did not come up with (and is not in the textbook or

your notes), judge if it's something you can borrow (see next sentence); always cite your source. I do realize that google might give you the solution to pretty much any homework question. Don't do it: it undermines your learning process, also, it will be considered plagiarism.

The penalty for a late homework is  $10 \cdot (\textit{late days})^2$ , 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.