

Mathematics 2345 : Discrete Mathematics

Topics for Exam 2

Fall 2013

The following list of topics may help you in your preparation for the test. It is always a good practice to review previous material:

- Everything covered in Exam 1 (Logic, Proof techniques, Sets)
Emphasis will be on the following, however: Sections 2.3, 2.4, Chapter 3
- Venn diagrams
- set identities, universal instantiation, universal generalization
- indexed collections
- Functions — definitions, injection, surjections, bijections, composition
- Sequences and Summations — countability, \aleph_0 , diagonalization, computability
- Growth of Functions (O, Ω, Θ – know definitions and meanings; how to apply; how to prove)
- Integers and Division (esp. primality, (pairwise) relatively prime, gcd, lcm, modular arithmetic, congruencies)
- Integers and Algorithms (esp. Euclidean, converting numbers between bases)
- Linear Combinations (Sec. 3.7)