Important Topics from Discrete Mathematics I

Topics included in MAD 2104 Discrete Mathematics I are not consistent from one university to the next. If you did not take MAD 2104 Discrete Mathematics I at Florida State University you may have covered a different collection of topics, even if you used the same textbook. Also, some instructors cover the same topics, but emphasize applications of the concepts rather than mathematical reasoning (proofs). In MAD 3105, you will be expected to utilize the proof techniques covered in the textbook sections included below.

This document summarizes the major topics covered in MAD 2104 at Florida State University. Text sections are identified for each topic to assist your review. Also, Dr. Kirby (lead faculty for on-campus sections of MAD 2104-3105) has made the online notes for MAD 2104 available for your review at http://www.math.fsu.edu/~pkirby/mad2104 . Feel free to discuss any content with your mentor.

Introduction to Sets & Set Operations	Rosen Section 1.6 - 1.7, & 3.3
Introduction to Functions &	
Properties of Functions	Rosen Section 1.8
Logic	Rosen Section 1.1
Propositional Equivalences	Rosen Section 1.2
Predicates and Quantifiers	Rosen Section 1.3 -1.4
Logical Arguments and Formal Proofs	Rosen Section 1.5
Methods of Proofs	Rosen Section 1.5 & 4.2
Induction	Rosen Section 3.3
Recurrence	Rosen Section 3.4
Growth	Rosen Section 2.2
Integers and Division	Rosen Section 2.4, 3.3 - 3.4
Integers and Algorithms &	
Applications of Number Theory	Rosen Section 2.5 - 2.6
Matrices	Rosen Section 2.7, 3.3-3.4
Introduction to Graphs	Rosen Section 8.1
Graph Terminology	Rosen Section 8.2
Representing Graphs &	
Graph Isomorphism	Rosen Section 8.3
Introduction to Relations	Rosen Section 7.1