

# Math 13 Syllabus

**Textbook:** "Math 13: An introduction to Abstract Mathematics" Notes

Lecture	Section	Topic(s)
1	1	Introduction
2	2.1	Propositions
3	2.1	Propositions
4	2.2	Methods of proof
5	2.2	Methods of proof
6	2.3	Quantifiers
7	3.1	Remainders and Congruences
8	3.2	Greatest Common Divisors and the Euclidean Algorithm
9	4.1, 4.2	Set Notations and Describing a Set; Subsets
10	4.4.3	Unions and Intersections
11	4.4	Introduction to Functions
12	4.4	Introduction to Functions; Review
13		<b>Midterm</b>
14	5.1	Proof by Induction
15	5.2	Well Ordering and the Principle of Mathematical Induction
16	5.3, 5.4	Recurrence Relations and Sequences; Strong Induction
17	5.4, 6.1	Strong Induction; Cartesian Products
18	6.2	Power Sets
19	6.3	Indexed Collections of Sets
20	6.3	Indexed Collections of Sets
21	6.3	Indexed Collections of Sets
22	7.1, 7.2	Relations; Functions Revisited
23	7.2, 7.3	Functions Revisited; Equivalence Relations
24	7.4, 7.5	Partitions; Well-Definition, Rings and Congruence
25	7.5, 7.6	Well-Definition, Rings and Congruence; Functions and Partitions
26	8.1, 8.2	<b>Cantor's Notion of Cardinality;</b> Countably Infinite Sets;
27	8.2, 8.3	Countably Infinite Sets; Uncountability
28	8.4	More Advanced Ideas
29	Review	