Math 245: Discrete Mathematics (Spring 2026)
Lecture Schedule

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Below is a list of the topics we intend to cover, along with a rough schedule. Actual schedule is subject to change without notice. Last updated January 15, 2026.

Week	Topic	Chapters
1/21 – 1/23	Overview of Syllabus & Introduction to Discrete Mathematics	
	Mathematical Definitions: The Role of Definitions	1.1
	Mathematical Definitions: Evens and Odds	1.2
1/26 – 1/30	Mathematical Definitions: Some Important Definitions	1.3
	Propositional Calculus: Basic Operators	2.1
	Propositional Calculus: Truth Tables	2.2
2/2 – 2/6	Propositional Calculus: Additional Operators	2.3
	Semantics: Introduction to Semantic Theorems	3.1
	Semantics: Important Semantic Theorems	3.2
2/9 – 2/13	Semantics: Proving Implications	3.3
	Predicate Calculus: Inductive Reasoning	4.1
	Predicate Calculus: Proving Quantified Propositions	4.2
2/16 – 2/20	Predicate Calculus: Multiple Quantifiers	4.3
	Proofs: Proof Techniques	5.1
	Midterm Exam 1: Friday, February 20	
2/23 – 2/27	Proofs: More Proof Techniques	5.2
	Proofs: Proofs with Floors and Ceilings	5.3
	Proof by Induction: Induction Examples	6.1
3/2 – 3/6	Proof by Induction: Intermediate Induction	6.2
	Proof by Induction: Advanced Induction	6.3
	Sequences and Recurrences: Solving Recurrences	7.1
3/9 – 3/13	Sequences and Recurrences: Big-O Notation	7.2
	Set Theory I: Set Equality and Containment	8.1
	Midterm Exam 2: Friday, March 13	
3/16 – 3/19	Set Theory I: Set Operations	8.2
	Set Theory I: Set Properties	8.3
3/20	*NCAA Tournament: No Classes*	
3/23 – 3/27	Set Theory II: More Set Operations and Properties	9.1
	Set Theory II: Cartesian Products	9.2
	Set Theory II: Infinite Sets	9.3
3/30 – 4/3	*Spring Break: No Classes*	
4/6 – 4/10	Relations: Examples	10.1
	Relations: Properties	10.2
	Relations: Operations	10.3
4/13 – 4/17	Equivalence Relations: Examples	11.1
	Midterm Exam 3: Wednesday, April 15	
	Equivalence Relations: Modular Arithmetic	11.2
4/20 – 4/24	Equivalence Relations: Equivalence Classes	11.3
	Posets: Examples and Hasse Diagrams	12.1
	Posets: Properties and Operations	12.2
4/27 – 5/1	Posets: Chains and Antichains	12.3
	Functions: Totality and Definiteness	13.1
	Functions: Basic Properties of Functions	13.2
5/4 – 5/6	Functions: Function Composition	13.3
	Catch Up Day	
5/8	**Midterm Exam 4 & Final Exam: Friday, May 8**	