Course Calendar

Mon.	Tues.	Wed.	Thurs.	Fri.
Jan. 16 2023 Martin Luther King Jr. Day	17	18 Motivation • Syllabus • Propositions • Connectives • Truth tables	19 Recitation	20 Propositional Logic Prerequisite Survey • Equivalence • Boolean algebra • Zeroth-order proofs
23 First-Order Logic • Predicates • Quantifiers	24	25 First-Order Logic • Syllogisms • Argument validity • First-order proofs	26 Recitation	27 First-Order Logic Problem Set 1 • Proof techniques • Examples
30 ZF Set Theory • Existence • Extensionality • Pairing • Union	31	***Feb. 1 2023*** ZF Set Theory • R. Comprehension • Regularity • Power Set	2 Recitation	3 ZF Set Theory Problem Set 2 • Infinity • v. Neumann ordinals • $\mathbb{Z}$, $\mathbb{Q}$, and $\mathbb{R}$
6 ZF Set Theory • Arithmetic on $\mathbb{N}$ • Functions, lists, matrices • Relaxation	7	8 Induction • L.E.P. of $\mathbb{N}$ • Weak induction	9 Recitation	10 Induction Problem Set 3 • Weak induction • Strong induction
13 Recurrences • Recursion • Examples	14	15 Recurrences • Recurrence relations • Examples	16 Recitation	17 Recurrences Problem Set 4 • Linear recurrences
20 Asymptotic Analysis • Big-$\mathcal{O}$ • Big-Ω • $\preccurlyeq$-ordering	21	22 Asymptotic Analysis • Examples	23 Recitation	24 Midterm 1
27 Functions • Injections • Surjections • Bijections	28	***Mar. 1 2023*** Functions • Monomorphisms • Epimorphisms • Isomorphisms	2 Recitation	3 Functions Problem Set 5 • Schröder-Bernstein • Permutations

Mon.	Tues.	Wed.	Thurs.	Fri.
6 Cardinality • Finite sets • Countable sets	7	8 Cardinality • Some theorems	9 Recitation	10 Cardinality Problem Set 6 • Uncountable sets
13 Spring Break Midterm Grades Due	14 Spring Break	15 Spring Break	16 Spring Break	17 Spring Break
20 Cardinality • Strings • Sequences	21	22 Relations • Properties • Preorders • Partial orders	23 Recitation	24 Relations Problem Set 7 • Equiv. Relations
27 Number Theory	28	29 Number Theory	30 Recitation	31 Number Theory Problem Set 8
Apr. 3 2023 Number Theory	4	5 Number Theory	6 Recitation Problem Set 9	7 Easter Holiday
10 Easter Holiday	11	12 ???	13 Recitation	14 Midterm 2
17 Graph Theory	18	19 Graph Theory	20 Recitation	21 Graph Theory Problem Set 10
24 Graph Theory	25	26 Graph Theory	27 Recitation	28 Graph Theory Problem Set 11

Mon.	Tues.	Wed.	Thurs.	Fri.
May. 1 2023 ???	2	3 Review	4 Reading Days	5 Reading Days
8	9	10 Final Exam 4:15pm – 6:15pm	11	12
15 Final Grades Due	16	17	18	19