

COURSE CALENDAR

MON.	TUES.	WED.	THURS.	FRI.
Jan. 16 2023 <div>Martin Luther King Jr. Day</div>	17	18 <div>Motivation</div> <ul style="list-style-type: none"> Syllabus 19c. – 20c. revolution 	19	20 <div>Prerequisite Survey</div> <div>Motivation</div> <ul style="list-style-type: none"> Argumentation Truth values
23 <div>Propositional Logic</div> <ul style="list-style-type: none"> Propositions Connectives Truth tables 	24	25 <div>Propositional Logic</div> <ul style="list-style-type: none"> Sufficiency Necessity Boolean algebras 	26 <div>Recitation</div>	27 <div>Problem Set 1</div> <div>Propositional Logic</div> <ul style="list-style-type: none"> Equivalence proofs Boolean theorems
30 <div>First-Order Logic</div> <ul style="list-style-type: none"> Predicates Quantifiers 	31	Feb. 1 2023 <div>First-Order Logic</div> <ul style="list-style-type: none"> Rules of inference Proofs 	2 <div>Recitation</div>	3 <div>First-Order Logic</div> <ul style="list-style-type: none"> Validity of arguments Church's Theorem
6 <div>Problem Set 2</div> <div>ZF Set Theory</div> <ul style="list-style-type: none"> Well-formed formulæ What is a set? Why set theory? 	7	8 <div>ZF Set Theory</div> <ul style="list-style-type: none"> Ax. Existence Ax. Extensionality Ax. Pairing Ax. Union 	9 <div>Recitation</div>	10 <div>ZF Set Theory</div> <ul style="list-style-type: none"> Unions of sets Ax. Separation
13 <div>Set Theory</div> <ul style="list-style-type: none"> Ax. Regularity Ax. Power Set The empty set 	14	15 <div>Problem Set 3</div> <div>Set Theory</div> <ul style="list-style-type: none"> v. Neumann ordinals Ax. Infinity Arithmetic 	16 <div>Recitation</div>	17 <div>Induction</div> <ul style="list-style-type: none"> \mathbb{Z}, \mathbb{Q}, and \mathbb{R} L.E.P. of \mathbb{N} Weak induction
20 <div>Induction</div> <ul style="list-style-type: none"> Weak induction Strong induction 	21	22 <div>Problem Set 4</div> <div>Recursion</div> <ul style="list-style-type: none"> Fibonacci Sequence Recurrence relations 	23 <div>Recitation</div>	24 <div>Recursion</div> <ul style="list-style-type: none"> Solving recurrences Searching algorithms
27 <div>Problem Set 5</div> <div>Recursion</div> <ul style="list-style-type: none"> Sorting algorithms Big-\mathcal{O} & Big-Ω 	28	Mar. 1 2023 <div>Functions</div> <ul style="list-style-type: none"> Injections Surjections Bijections 	2 <div>Recitation</div>	3 <div>Midterm 1</div>

MON.	TUES.	WED.	THURS.	FRI.
6 <div>Cardinality</div> <ul style="list-style-type: none"> • Finite sets • Countable sets • Ax. Choice 	7	8 <div>Cardinality</div> <ul style="list-style-type: none"> • Some theorems 	9 <div>Recitation</div>	10 <div>Problem Set 6</div> <div>Cardinality</div> <ul style="list-style-type: none"> • Uncountable sets
13 <div>Spring Break</div> <div>Midterm Grades Due</div>	14 <div>Spring Break</div>	15 <div>Spring Break</div>	16 <div>Spring Break</div>	17 <div>Spring Break</div>
20 <div>Cardinality</div> <ul style="list-style-type: none"> • Strings • Sequences 	21	22 <div>Relations</div> <ul style="list-style-type: none"> • Properties • Preorders • Partial orders 	23 <div>Recitation</div>	24 <div>Problem Set 7</div> <div>Relations</div> <ul style="list-style-type: none"> • Equiv. Relations
27 <div>Number Theory</div>	28	29 <div>Number Theory</div>	30 <div>Recitation</div>	31 <div>Problem Set 8</div> <div>Number Theory</div>
<i>Apr. 3 2023</i> <div>Number Theory</div>	4	5 <div>Number Theory</div>	6 <div>Recitation</div> <div>Problem Set 9</div>	7 <div>Easter Holiday</div>
10 <div>Easter Holiday</div>	11	12 <div>???</div>	13 <div>Recitation</div>	14 <div>Midterm 2</div>
17 <div>Graph Theory</div>	18	19 <div>Graph Theory</div>	20 <div>Recitation</div>	21 <div>Problem Set 10</div> <div>Graph Theory</div>
24 <div>Graph Theory</div>	25	26 <div>Graph Theory</div>	27 <div>Recitation</div>	28 <div>Problem Set 11</div> <div>Graph Theory</div>

MON.	TUES.	WED.	THURS.	FRI.
<div>May. 1 2023</div> <div>???</div>	2	<div>3</div> <div>Review</div>	<div>4</div> <div>Reading Days</div>	<div>5</div> <div>Reading Days</div>
8	9	<div>10</div> <div>Final Exam 4:15pm – 6:15pm</div>	11	12
<div>15</div> <div>Final Grades Due</div>	16	17	18	19