

TEXT: *The Tools of Mathematical Reasoning*, by Tamara J. Lakins
AMS Pure and Applied Undergraduate Texts #26

SCHEDULE: Unless announced otherwise, all topics listed herein are possible topics on the final exam. The daily schedule may vary slightly from the schedule given below. School closures (weather related or otherwise) could also lead to changes in this schedule – in such instances a revised schedule will be posted to the course website

DAILY WORK: Please read through the sections in the book to be covered before coming to class each day. The exercises listed represent a minimal assignment and should be sufficient to practice and gain understanding of the related material. Some students may need to work additional exercises to attain mastery of the material.

FINAL EXAM: The final exam for this course will be held from 9:00-11:00am on Thursday, May 9th
You are expected to arrange your schedule to allow you to take all in-class exams (including the final exam) at their scheduled times.

WEEK	DATES	SECTIONS	TOPICS
1	Tues, Jan 15	Course Intro, 1.1	Language, Logic, and Proof
	Thurs, Jan 17	1.1	Language, Logic, and Proof

Drop/Add Deadline – Friday, January 18th

2	Tues, Jan 22	1.2	Proof
	Thurs, Jan 24	1.2	Proof

Monday, January 28th: Pass/No Credit Deadline

3	Tues, Jan 29	2.1	Direct Proofs
	Thurs, Jan 31	2.1, 2.2	Direct and Indirect Proofs – Contrapositive
4	Tues, Feb 5	2.2	Indirect Proof – Contradiction
	Thurs, Feb 7	2.3	Two Important Theorems
5	Tues, Feb 12	2.4, Review	Statements Involving Mixed Quantifiers
	Thurs, Feb 14	Exam 1	
6	Tues, Feb 19	3.1	Mathematical Induction
	Thurs, Feb 21	3.1, 3.2	Mathematical Induction, Strong Induction
7	Tues, Feb 26	4.1, 4.2	The Language of Sets; Set Operations
	Thurs, Feb 28	4.2	Set Operations

**Spring Break – No Classes
March 4th – March 8th**

8	Tues, Mar 12	4.3	Arbitrary Unions and Intersections
	Thurs, Mar 14	5.1	Relations and Functions
9	Tues, Mar 19	5.2, 5.3	Function Composition, 1-1 and Onto Functions
	Thurs, Mar 21	5.3, 5.4	1-1 and Onto Functions; Invertible Functions
10	Tues, Mar 26	5.4, 5.5	Functions and Sets
	Thurs, Mar 28	Exam 2	
11	Tues, Apr 2	6.4	Congruences
	Thurs, Apr 4	6.5	Congruence Classes
12	Tues, Apr 9	7.1	More on Relations
	Thurs, Apr 11	7.2, 7.3	Equivalence Relations and Set Partitions
13	Tues, Apr 16	No classes	Student Academic Conference
	Thurs, Apr 18	Addendum	Partially Ordered Sets

Tuesday, April 23rd: Withdrawal Deadline

14	Tues, Apr 23	Addendum	Partially Ordered Sets
	Thurs, Apr 25	Addendum	Additional Topics
15	Tues, Apr 30	Addendum	Additional Topics
	Thurs, May 2	Addendum	Additional Topics
16	Tues, May 7	Review	
	Wed, May 8	No classes	Study Day

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