

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 Friday, December 14th
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, Aug 28	Course Intro, 1.1	Language, Logic, and Proof
	Thurs, Aug 30	1.1	Language, Logic, and Proof

Drop/Add Deadline – Friday, August 31st

2	Tues, Sept 4	1.2	Proof
	Thurs, Sept 6	1.2	Proof
3	Tues, Sept 11	2.1	Direct Proofs

Monday, September 10th: Pass/No Credit Deadline

4	Thurs, Sept 13	2.1, 2.2	Direct and Indirect Proofs – Contrapositive
	Tues, Sept 18	2.2	Indirect Proof – Contradiction
5	Thurs, Sept 20	2.3	Two Important Theorems
	Tues, Sept 25	2.4, Review	Statements Involving Mixed Quantifiers
6	Thurs, Sept 27	Exam 1	
	Tues, Oct 2	3.1	Mathematical Induction
7	Thurs, Oct 4	3.1, 3.2	Mathematical Induction, Strong Induction
	Tues, Oct 9	4.1, 4.2	The Language of Sets; Set Operations
8	Thurs, Oct 11	4.2	Set Operations
	Tues, Oct 16	4.3	Arbitrary Unions and Intersections
9	Thurs, Oct 18	5.1	Relations and Functions
	Tues, Oct 23	5.2, 5.3	Function Composition, 1-1 and Onto Functions
10	Thurs, Oct 25	5.3, 5.4	1-1 and Onto Functions; Invertible Functions
	Tues, Oct 30	5.4, 5.5	Functions and Sets
11	Thurs, Nov 1	Exam 2	
	Tues, Nov 6	6.4	Congruences
12	Thurs, Nov 8	6.5	Congruence Classes
	Tues, Nov 13	7.1	More on Relations
13	Thurs, Nov 15	7.2, 7.3	Equivalence Relations and Set Partitions
	Tues, Nov 20	Addendum	Partially Ordered Sets
	Thurs, Nov 22	No classes	Thanksgiving Holiday

Monday, November 26th: Withdrawal Deadline

14	Tues, Nov 27	Addendum	Partially Ordered Sets
	Thurs, Nov 29	Addendum	Additional Topics
15	Tues, Dec 4	Addendum	Additional Topics
	Thurs, Dec 6	Addendum	Additional Topics
16	Tues, Dec 11	Review	
	Wed, Dec 12	No classes	Study Day

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