

# Course Overview

Autumn 2010

**Math 345**

Jim Fowler

## Week 1

Wednesday, September 22, 2010 Propositional calculus (§2)  
Thursday, September 23, 2010 Examples with real numbers (§2)

## Week 2

Monday, September 27, 2010 Tautologies (§2)  
Tuesday, September 28, 2010 Solving equations (§2)  
Wednesday, September 29, 2010 Contradiction, contrapositives (§2)  
Thursday, September 30, 2010 Quantifiers (§3)

## Week 3

Monday, October 4, 2010 Bound variables (§3)  
Tuesday, October 5, 2010 Nested quantifiers (§3)  
Wednesday, October 6, 2010 Number theory (§4)  
Thursday, October 7, 2010 Parity (§4)

## Week 4

Monday, October 11, 2010 Irrationality (§4)  
Tuesday, October 12, 2010 Divisibility (§4)  
Wednesday, October 13, 2010 Congruences (§4)  
Thursday, October 14, 2010 Prime numbers (§4)

## Week 5

Monday, October 18, 2010 Polynomials (§4)  
Tuesday, October 19, 2010 **Midterm 1**  
Wednesday, October 20, 2010 Induction (§5)  
Thursday, October 21, 2010 Induction and divisibility (§5)

## Week 6

Monday, October 25, 2010 Pascal's triangle (§5)  
Tuesday, October 26, 2010 Binomial theorem (§5)  
Wednesday, October 27, 2010 More on binomial theorem (§5)

Thursday, October 28, 2010 Fibonacci numbers (§5)

## Week 7

Monday, November 1, 2010 Sums of squares (§6)  
Tuesday, November 2, 2010 Strong induction (§7)  
Wednesday, November 3, 2010 Sets (§10)  
Thursday, November 4, 2010 Intersections, unions, subsets (§10)

## Week 8

Monday, November 8, 2010 Algebra of set operations (§10)  
Tuesday, November 9, 2010 Some practice problems (§10)  
Wednesday, November 10, 2010 **Midterm 2**  
Thursday, November 11, 2010 *Veteran's Day*

## Week 9

Monday, November 15, 2010 Functions (§11)  
Tuesday, November 16, 2010 Surjections, injections (§11)  
Wednesday, November 17, 2010 Inverse functions (§11)  
Thursday, November 18, 2010 Families of sets (§12)

## Week 10

Monday, November 22, 2010 Counting (§13)  
Tuesday, November 23, 2010 Combinatorics (§14)  
Wednesday, November 24, 2010 Infinite sets (§15)  
Thursday, November 25, 2010 *Thanksgiving*  
Friday, November 26, 2010 *Columbus Day*

## Week 11

Monday, November 29, 2010 Bijections (§15)  
Tuesday, November 30, 2010 Diagonalization argument (§15)  
Wednesday, December 1, 2010 Countability (§16)  
Thursday, December 2, 2010 Continuum hypothesis (§16)