245 Syllabus **Spring 2006**

Day	Date	Activity	Details
1-T	1/10	*Discuss:*	Logistics, course overview, LaTeX
		Preview:	1.1: Sets / 1.2: Set Operations
		Exercises:	1.1: 3, 5, 8, 9 / 1.2: 2, 4, 5, 6, 14.
1-R	1/12	*Hand in:*	LaTeX assignment
		Discuss:	1.1, 1.2
		Preview:	1.3: Partitions
		Exercises:	1.3: 2, 5, 6, 9, 12.
2-T	1/17	*Hand in:*	1.1, 1.2
		Discuss:	1.3
		Preview:	1.4: Logic and Truth Tables / 1.5: Quantifiers
		Exercises:	1.4: 3, 4, 5, 6, 10, 12, 13 / 1.5: 2, 3, 4, 5.
2-R	1/19	*Hand in:*	1.3
		Discuss:	1.4, 1.5
		Preview:	1.6: Implications
		Exercises:	1.6: 1, 4, 6, 8, 10, 11a.
3-T	1/24	*Hand in:*	1.4, 1.5
		Discuss:	1.6
		Preview:	2.1: Proof Techniques
		Exercises:	2.1, first set: 1, 4, 11, 13, 15, 16, 17, 18.
3-R	1/26	*Hand in:*	1.6
		Discuss:	2.1
		Exercises:	2.1, second set: 19, 20, 21, 24, 28, 29, 30.
4-T	1/31	*Hand in:*	2.1, first set
		Discuss:	2.1
		Preview:	2.2: Mathematical Induction
		Exercises:	2.2: 2adg, 4, 5, 6, 11, 12, 14, 15.
4-R	2/2	*Hand in:*	2.1, second set
		Discuss:	2.2
		Preview:	2.3: The Pigeonhole Principle
		Exercises:	2.3: 2, 4, 6, 9, 11, 15, 16.
5-T	2/7	*Hand in:*	2.2
		Discuss:	2.3
		Review:	3.1: Divisibility *(like Math 310: Elementary Theory of Numbers)*
5-R	2/9	*Hand in:*	2.3
		Discuss:	3.1
		Review:	Review for Test I

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Day	Date	Activity	Details
6-T	2/14	*No class:*	*Assessment Day*
6-R	2/16	*Hand in:*	3.1
		Exam:	**Test I**
		Preview:	4.1: Getting from Point A to Point B
		Exercises:	4.1: 1, 4, 6, 7, 9, 10.
7-T	2/21	*Hand in:*	Resubmit any proof
		Discuss:	4.1
		Preview:	4.2: Fund. Principle of Counting / 4.3: Formula for Binomial Coefficients
		Exercises:	4.2: 1, 4, 6, 7, 8. / 4.3: 4, 5, 6, 7, 9.
7-R	2/23	*Hand in:*	4.1
		Discuss:	4.2, 4.3
		Preview:	4.4: Combinatorics with Indistinguishable Objects
		Exercises:	4.4: 1bd, 2, 3, 4, 6, 9, 10, 14.
8-T	2/28	*Hand in:*	4.2, 4.3
		Discuss:	4.4
		Preview:	4.5: Probability *(like Math 318: Probability and Statistics)*
		Exercises:	4.5: 2, 3, 4, 6, 8, 9, 10.
8-R	3/2	*Hand in:*	4.4
		Discuss:	4.5
		Preview:	5.1: Relations
		Exercises:	5.1: 2, 3, 4, 5, 7, 11, 15, 17.
9-T	3/7	*No class:*	*Spring Break*
9-R	3/9	*No class:*	*Spring Break*
10-T	3/14	*Hand in:*	4.5
		Discuss:	5.1
		Preview:	5.2: Equivalence Relations
		Exercises:	5.2: 1, 2, 3, 4, 5, 8.
10-R	3/16	*Hand in:*	5.1
		Discuss:	5.2
		Preview:	5.3: Partial Orders
		Exercises:	5.3: 2, 3, 7, 8, 13, 16, 18.
11-T	3/21	*Hand in:*	5.2
		Discuss:	5.3
		Preview:	5.4: Quotient Spaces *(like Math 430: Abstract Algebra)*
		Exercises:	5.4: 1, 2, 6, 7, 8, 9, 10.
11-R	3/23	*Hand in:*	5.3
		Discuss:	5.4
		Preview:	6.1: Functions
		Exercises:	6.1: 2, 3, 5, 9, 10, 11, 12, 13, 19.

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Day	Date	Activity	Details
12-T	3/28	*Hand in:*	5.4
		Discuss:	6.1
		Preview:	6.2: Inverse Relations and Inverse Functions
		Exercises:	6.2: 3, 4, 5, 8, 9, 12, 15.
12-R	3/30	*Hand in:*	6.1
		Discuss:	6.2
		Preview:	6.3: Cardinality of Infinite Sets *(like Math 315: Real Number System)*
		Exercises:	6.3: 2, 3, 6, 8, 9, 10.
13-T	4/4	*Hand in:*	6.2
		Discuss:	6.3
		Review:	Review for Test II
13-R	4/6	*Hand in:*	6.3
		Exam:	**Test II**
		Preview:	7.1: Graphs *(like Math 353: Graph Theory)*
		Exercises:	7.1: 2, 3, 4, 6, 9, 11, 12, 13.
14-T	4/11	*Hand in:*	Resubmit any proof
		Discuss:	7.1
		Preview:	9.1: Pascal's Triangle
		Exercises:	9.1: 1, 5, 7, 8, 9, 10, 19.
14-R	4/13	*Hand in:*	7.1
		Discuss:	9.1
		Preview:	9.2: The Fibonacci Numbers
		Exercises:	9.2: 1, 2, 3, 4, 5, 9.
15-T	4/18	*Hand in:*	9.1
		Discuss:	9.2
15-R	4/20	*Hand in:*	9.2
		Discuss:	Proofs (or use this as a catch-up day)
16-T	4/25	*Hand in:*	Resubmit any proof
		Movie:	*The Proof*
16-R	4/27	*Hand in:*	Resubmit any proof
		Surveys:	Teacher-Course Evaluations and Class Surveys

Final Exam Information:

The final will be cumulative, all proofs, open book.

Section 01 exam: Tuesday, May 2, 8:00–10:00, Burruss 034.

Section 02 exam: Thursday, May 4, 1:30–3:30, Burruss 034.