

MATH 3012B: Applied Combinatorics
Course Calendar
Fall 2008

Reading assignments refer to Trotter and Keller, *Applied Combinatorics*, Fall 2008 Edition. Homework problems will be posted on the course website as the semester progresses. The material scheduled for each day is tentative and subject to change depending on how things progress.

Date	Topic	Reading
T 19 Aug 2008	Policy, Introduction	Chapter 1, Appendix A
R 21 Aug 2008	Strings, permutations, combinations	Chapter 2
T 26 Aug 2008	Combinatorial proofs, binomial coefficients	Chapter 2
R 28 Aug 2008	Binomial and Multinomial Thms, Number Systems	Chapter 2, Appendix B
T 2 Sept 2008	Induction: Introduction, Recursion, GCD	Chapter 3
R 4 Sept 2008	Induction: Proofs by induction	Chapter 3
T 9 Sept 2008	Posets: Introduction	Chapter 5
R 11 Sept 2008	Posets: Dilworth's Theorem	Chapter 5
T 16 Sept 2008	Posets: Subset lattice and Sperner's Theorem	Chapter 5
R 18 Sept 2008	Test I	Through Dilworth's Thm
T 23 Sept 2008	Interval Orders	Chapter 5
R 25 Sept 2008	Graphs: Intro, Euler circuit, Hamiltonian cycle	Chapter 4
T 30 Sept 2008	Graphs: Coloring	Chapter 4
R 2 Oct 2008	Graphs: Planarity	Chapter 4
T 7 Oct 2008	Graphs: Cayley's Formula, tree labelings	Chapter 4
R 9 Oct 2008	Inclusion-Exclusion: Introduction, Surjections	Chapter 6
T 14 Oct 2008	No class	FALL BREAK
R 16 Oct 2008	Inclusion-Exclusion: Derangements, Euler ϕ	Chapter 6
T 21 Oct 2008	Generating Functions	Chapter 7
R 23 Oct 2008	Test II	Through Incl-Excl
T 28 Oct 2008	Generating Functions	Chapter 7
R 30 Oct 2008	Recurrence Equations: Homogeneous case	Chapter 8
T 4 Nov 2008	Recurrence Equations: Nonhomogeneous case	Chapter 8
R 6 Nov 2008	Ramsey Theory	Chapter 9
T 11 Nov 2008	Minimum Weight Spanning Trees	Chapter 10
R 13 Nov 2008	Shortest Path	Chapter 10
T 18 Nov 2008	Network Flows	Chapter 11
R 20 Nov 2008	Network Flow Algorithm	Chapter 11
T 25 Nov 2008	Test III	Through Labeling Alg.
R 27 Nov 2008	No class	THANKSGIVING
T 2 Dec 2008	Network Flow Application: Bipartite Matching	Chapter 12
R 4 Dec 2008	Network Flow Application: Chain Partitioning	Chapter 12
M 8 Dec 2008	Final Exam	EVERYTHING!