

# Math 331/CSci 331 Graph Theory Syllabus Spring 2018

Week	Date	Type	Section(s)	Topic(s)	Homework
1	1/17	C		Counting, Permutations	1
	19	C		Combinations	2
	22	C		Inclusion/Exclusion	3
	24	C		Generating Functions	4
	26	C		Recurrence Relations	5
	29	C		Solving Recurrence Relations	6
	31	C		Burnside's Lemma	7
	2/2		<b>Review</b>		
	5		<b>Test #1</b>		
2	7	D	1.2, 1.3	Graphs, Notation, Examples	8
	9	P	1.2	Walks, Trails, Paths, Circuits, Cycles	9
	12	P	1.2, 1.3	Bipartite & Connected Graphs	10
	14	D	2.1	Degrees & First Theorem of Graph Theory	11
	16	A	2.2, 2.3	Regular Graphs & Erdős Algorithm	12
	19	D	2.4	Adjacency & Incidence Matrices	13
	21			<b>Review</b>	
	23		<b>Test #2</b>		
3	26	D	3.1	Isomorphisms	14
	28	D	3.3	Automorphisms	15
	3/2	P	12.1	Distance, Eccentricity, Radius, Diameter	16
				---- SPRING BREAK ----	
4	12	A		Dijkstra's Algorithm	17
	14	P	4.1, 4.2	Bridges & Trees	18
	16	A	4.3	Kruskal's & Prim's Algorithms	19
	19	A	4.4	Counting Trees & Prüfer Algorithm	20
	21			<b>Review</b>	
	23			<b>Test #3</b>	
5	26	P	5.1, 5.2	Cut Vertices & Blocks	21
	28	P	5.3	Connectivity	22
	30			---- GOOD FRIDAY ----	
6	4/2	P	5.4	Menger's Theorem	23
	4	P	6.1	Eulerian Graphs	24
	6	A		Fleury's & Chinese Postman Algorithms	25
	9	P	6.2	Hamiltonian Graphs	26
	11			<b>Review</b>	
	13		<b>Test #4</b>		
7	16	P	9.1	Planar Graphs	27
	18	P	9.1	Euler's Formula	28
	20	P	10.2	Chromatic Number	29
	23	D		Chromatic Polynomials	30
	25	A		DMP & Brelaz's Algorithms	31
	27			<b>Review</b>	
	30			<b>Test #5</b>	
8	5/2		<b>Review (Hand Out Take-Home Final Due Noon 5/7)</b>		