

Calendar for 601.433/633 (Subject to Change)

Date	Lecture #	Topic	CLRS chapter	Comments
Jan 30	Lec 1	Introduction, Insertion Sort,	1,2	
Feb 1	Lec 2	Divide-and-Conquer, Merge Sort, Matrix Multiplication, Finding a pair of closest points	2.3, 4.1, 4.2, 33.4	
Feb 6	Lec 3	Randomized Quick Sort, Randomized Algorithms	7.3	HW 1 is due
Feb 8	Lec 4	Master Theorem, Recurrences	4.5,4.6	
Feb 13	Lec 5	Linear Time Sorting Algorithms	8	
Feb 15	Lec 6	Finding median in linear time	9.3	HW 2 is due
Feb 20	Lec 7	Greedy algorithms, Dynamic Programming	15	
Feb 22	Lec 8	Dynamic Programming	15	
Feb 27	Lec 9	Red Black Trees	17.3,	HW 3 is due
Mar 1	Lec 10	Amortized Analysis	14	
Mar 6	Lec 11	Union Find with Path Compression	21.1, 21.4	
Mar 8	Lec 12	Basic Graph Alg., BFS, DFS, Topological Sorting, Strongly Connected Components	22	HW 4 is due
Mar 13	Lec 13	MST	23	
Mar 15	Lec 14	Quiz, covers Lectures 1-11		
Mar 20	Lec 15	Spring break!		
Mar 22	Lec 16	Spring break!		
Mar 27	Lec 17	Shortest Paths	24	HW 5 is due
Mar 29	Lec 18	Shortest Paths, Floyd-Warshall Algorithm	24, 25	
Apr 3	Lec 19	Maximum Flow, Intro	26	
Apr 5	Lec 20	Maximum Flow, Examples, properties	26	HW 6 is due

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Apr 10	Lec 21	Maximum Flow, Min-Cut Max-Flow theorem, applications	26	
Apr 12	Lec 22	String Matching		
Apr 17	Lec 23	NP Completeness, Reductions	34	HW 7 is due
Apr 19	Lec 24	Approximation Algorithms, LP	35, [WS]	
Apr 24	Lec 25	Randomized Algorithms	Notes, [MU]	
Apr 26	Lec 26	Randomized Algorithms	Notes, [MU]	
May 1	Lec 27	Algorithms for Big Data	Notes	
May 3	Lec 28	Review		
May 15	Final	Covers all material		9am-noon

References:

[WS] The Design of Approximation Algorithms by David P. Williamson and David B. Shmoys, published by Cambridge University Press.

Available at <http://www.designofapproxalgs.com/>

[MU] Probability and Computing: Randomized Algorithms and Probabilistic Analysis by Michael Mitzenmacher, Eli Upfal

Available online at JHU library

https://catalyst.library.jhu.edu/catalog/bib_4764947