		Lecture Schedule and Readings (as of 2/24/20)		Reading Materials are Direct Links or In Box	
	Date	**Topic**	**Text Reading**	**Required Reading**	**Recommended Reading**
0		Prerequisite Reading	Ch. 1, 2, 4.1 -4.5, 5.1, 5.2, 6		Online SQL Tutorial: http://www.w3schools.com/sql/default.asp
1	27-Jan	Introduction	Ch. 1		
2	27-Jan	Architecture of Relational Databases and Contemporary Cloud Databases			
3	3-Feb	B+ Trees, Primary and Secondary Indexes	Ch. 14.1,14.2, 8.4, 8.4		Visualization of B+trees https://www.cs.usfca.edu/~galles/visualization/BPlusTree.html
4	3-Feb	IO Cost Models and How Disks Really Behave	Ch. 13, less 13.4		
5	10-Feb	Bit Map Indexing	Ch. 14.7		
6	10-Feb	Bloom Filters and Intro. to semijoin reduction		https://en.wikipedia.org/wiki/Bloom_filter	Visualization of Bloom Filter https://www.jasondavies.com/bloomfilter/
7	17-Feb	Column and Key, Value Stores		SQL Server Doc on ColumnStore Index	See materials in Box
8	17-Feb	Introduction to Query Processing	Ch. 15.1, 15.4.1		
9	24-Feb	Two Phase Multiway Merge Sort The Data Catalog	Ch. 15.1 - 15.4		
10	24-Feb	Nested Loop and Merge Joins	Ch. 15.4 - 15.5		A Join a Day
Midterm 1	2-Mar	Midterm 1			
11	2-Mar	Join Size & Query Optimization	Ch. 16		
12	9-Mar	Multidimenational Indexing	Ch. 14.4, 14.6	Guttman84	
13	9-Mar	Introduction to Parallel Databases	Ch. 20.1	https://en.wikipedia.org/wiki/Amdahl%27s_law	
	16-Mar	Spring Break			
	16-Mar	Spring Break			
14	23-Mar	Parallel, Grace Join Algorithm = repartition join in Map-Reduce		Walton et. al. Taxonomay and Performance … of Joins	Supplementary material on UT Box
15	23-Mar	Datalog	Ch. 5		

15	30-Mar	Datalog (cont'd) Recursive Datalog		Ch. 3 of "Principles of Database and Knowledge-Base Systems". https://utexas.box.com/s/u8p67whplmhhz2x3kla8rctso3tblwcr	
16	30-Mar	Semijoin Reduction and Join Indexes	Ch. 20.4		Supplementary material on UT Box
Midterm 2	8-Apr	Midterm 2			
17	8-Apr	Introduction Graph Databases			
18	13-Apr	Edge Graphs, RDF and SPARQL			
19	13-Apr	Constraints & Triggers	Ch. 17	Trade press articles on data cleanliness	
20	20-Apr	Data Models - UML and Crows foot			
21	20-Apr	Views and Semantics	8.5		Ch. 18.8
22	27-Apr	Data Integration			
23	27-Apr	Serializability	Ch 18.1, 18.2		
24	4-May	Locking	Ch. 18.3 - 18.5		
25	4-May	Object and Document Databases (e.g. MongoDB)			
26	4-May	Normal Forms and the Chase Algorithm	Ch. 7.5, 8.1, 8.2, 8.5		