

Lecture #	Date	Day	Assignment	Papers to Read and Write a Report On	Quiz	Category	Topics	Reference Videos	
1	11-Jan	Tuesday	Setting up colab and AWS and testing the system works	Towards felicitous decision making: An overview on challenges and trends of Big Data + Big Data Systems: A Software Engineering Perspective		Introduction	Overview of the class+ Understanding Big Data	<a href="https://youtu.be/0uc9zB-FmVk">https://youtu.be/0uc9zB-FmVk</a>	
2	13-Jan	Thursday					Applications Of Big Data: Wildfire + Transit Analysis + Emergency Response		
3	18-Jan	Tuesday	Assignment 1: sql	Anatomy of a Database System		Storage	Overview of databases and their anatomy+ACID Properties	<a href="https://www.youtube.com/watch?v=5Pia4UFuMKo">https://www.youtube.com/watch?v=5Pia4UFuMKo</a>	
4	20-Jan	Thursday					Relational Databases : SQL and Joins and access	<a href="https://youtu.be/HXV3zeQKqGY">https://youtu.be/HXV3zeQKqGY</a>	
5	25-Jan	Tuesday		Access Path Selection and Joins+ Optimistic Concurrency			Relational Databases: Indexes, Locks and Concurrency -00	<a href="https://youtu.be/ihXf8p_-UwU">https://youtu.be/ihXf8p_-UwU</a>	
6	27-Jan	Thursday	Distribution/Partitioning: Fault Tolerance+ CAP Theorem				<a href="https://www.youtube.com/watch?v=R_Fxz14tr2M">https://www.youtube.com/watch?v=R_Fxz14tr2M</a>		
7	1-Feb	Tuesday	Assignment 2: MongoDB	columnstoresfntdb (chapters 1, 2 and 3)			Column vs Row Oriented Databases	<a href="https://www.youtube.com/watch?v=Vw1fCeD06YI">https://www.youtube.com/watch?v=Vw1fCeD06YI</a>	
8	3-Feb	Thursday					Introducing NoSQL Databases: Need and Differences/ MongoDB	<a href="https://www.youtube.com/watch?v=QwевGzVu_zk">https://www.youtube.com/watch?v=QwевGzVu_zk</a>	
9	8-Feb	Tuesday		NOSQL Paper			Batch Processing	BigTable and DynamoDB	BigTable: <a href="https://www.youtube.com/watch?v=KaRbKdMinuc">https://www.youtube.com/watch?v=KaRbKdMinuc</a> DynamoDB: <a href="https://www.youtube.com/watch?v=OfZgHXsYqNE">https://www.youtube.com/watch?v=OfZgHXsYqNE</a>
10	10-Feb	Thursday	InfluxDB					<a href="https://www.youtube.com/watch?v=OoCsY8odmpM">https://www.youtube.com/watch?v=OoCsY8odmpM</a>	
11	15-Feb	Tuesday	Assignment 3: Influx and Pandas	Graph DataBase Paper	Quiz 1			Graph Databases	<a href="https://www.youtube.com/watch?v=GekQqFZm7mA">https://www.youtube.com/watch?v=GekQqFZm7mA</a>
12	17-Feb	Thursday			Fault Tolerance Paper			Overview of Pandas and Parquet	Pandas: <a href="https://www.youtube.com/watch?v=vmEHCJofslg">https://www.youtube.com/watch?v=vmEHCJofslg</a> Parquet: <a href="https://www.youtube.com/watch?v=pFS-FScophU">https://www.youtube.com/watch?v=pFS-FScophU</a>
13	22-Feb	Tuesday		Project Overview and Discussions					
14	24-Feb	Thursday		Assignment 4: Hadoop and MapReduce	Orchestrating Big Data	Streaming		Map Reduce	<a href="https://www.youtube.com/watch?v=b-lvmXoO0bU">https://www.youtube.com/watch?v=b-lvmXoO0bU</a>
15	1-Mar	Tuesday	Map Reduce						
16	3-Mar	Thursday	Spark		<a href="https://www.youtube.com/watch?v=IQfG0faDrzE">https://www.youtube.com/watch?v=IQfG0faDrzE</a>				
17	15-Mar	Tuesday	map-reduce-bookchapter.pdf + MapReduce: Simplified Data Processing on Large Clusters		Quiz 2			Dask	<a href="https://www.youtube.com/watch?v=EybGGLbLipI">https://www.youtube.com/watch?v=EybGGLbLipI</a>
18	17-Mar	Thursday		Assignment 5: Spark and comparison with DASK	ComparisonOfApproachesToLargeScaleDataAnalysis.pdf			Overview (Dataflow Model) + Kafka and Pulsar and ZooKeeper	
19	22-Mar	Tuesday	Kafka and Pulsar and ZooKeeper				Kafka: <a href="https://www.youtube.com/watch?v=JaIUUBKdcA0">https://www.youtube.com/watch?v=JaIUUBKdcA0</a> Pulsar: <a href="https://www.youtube.com/watch?v=IAVPIY1PRdo">https://www.youtube.com/watch?v=IAVPIY1PRdo</a>		
20	24-Mar	Thursday			SparkStreaming		<a href="https://www.youtube.com/watch?v=UuRhEmqqhRM">https://www.youtube.com/watch?v=UuRhEmqqhRM</a>		
21	29-Mar	Tuesday	spark.pdf		Quiz 3		Storm	<a href="https://www.youtube.com/watch?v=0mIEUibjtzk">https://www.youtube.com/watch?v=0mIEUibjtzk</a>	
22	31-Mar	Thursday		Apache Flink			<a href="https://www.youtube.com/watch?v=G77m6Ou_kFA">https://www.youtube.com/watch?v=G77m6Ou_kFA</a>		
23	5-Apr	Tuesday	Assignment 6: Kafka and Spark Streaming	Kafka: a Distributed Messaging System for Log Processing	Analytics and Real-world Use Cases		Clustering	<a href="https://www.youtube.com/watch?v=eg8DJYwdMyg">https://www.youtube.com/watch?v=eg8DJYwdMyg</a>	
24	7-Apr	Thursday				Pagerank	<a href="https://www.youtube.com/watch?v=meonLcN7LD4">https://www.youtube.com/watch?v=meonLcN7LD4</a>		
25	12-Apr	Tuesday		ZooKeeper: Wait-free coordination for Internet-scale systems		Anomaly Detection	<a href="https://www.youtube.com/watch?v=12Xq9OLdQwQ">https://www.youtube.com/watch?v=12Xq9OLdQwQ</a>		
26	14-Apr	Thursday				GeoInformational Systems Processing (Traffic and Incident Data)	None		
27	19-Apr	Tuesday	Assignment 7 (Bonus): Visualization	Efficient Data Management for Intelligent Urban Mobility Systems		Project Presentations	Project Presentations 1	None	
28	21-Apr	Thursday					Project Presetation 2	None	