Distributed Database Systems Tentative Schedule (2019-02)

Date	Lecture	After Lecture
Week 1 Feb. 26, 2019	1. Course Overview (Course Goal, Course Content, Course Structure, Course Deliverables) 2. DDBS Introduction (What is a distributed database system (DDBS)? Promises of DDBSs; Complicating Factors; Problem Areas) 3. Date's 12 Rules for Distributed Database Systems	
Week 2 March 5, 2019	1. Distributed Database Architecture (Top-Down DDBS Architecture Design - Schema and Distribution Transparency, 2. Bottom-up DDBS Architecture Design - Alternative Architectures including clients-server, master-slaves, peer-to-peer distributed DBMS, multi-databases) Group Project Kick-off	
Week 3 March 12, 2019	1. Distributed Database Design (Horizontal Fragmentation, Derived Horizontal Fragmentation, and Vertical Fragmentation) Presentation	Homework 1
Week 4 March 19, 2019	1. Distributed Query Processing (Query Decomposition and Localization) Presentation	
Week 5 March 26, 2019	1. Optimization of Distributed Queries (Centralized Query Optimization - Ingres, System R; Distributed Ingres, R*) Presentation	Homework 1 due Homework 2
Week 6 April 2, 2019	Project Start-up Presentation	
Week 7 April 9, 2019	1. Transaction Management (Execution Schedule and Serializability Theory, Concurrency Control Algorithm - locking) Presentation	Homework 2 due Homework 3
Week 8 April 16, 2019	1. Distributed Concurrency Control (Pessimistic vs. Optimistic Distributed Concurrency Control Algorithm - timestamp ordering) Presentation	
Week 9 April 23, 2019	1. Distributed DBMS Reliability (Write-Ahead Logging and Checkpoint,	Homework 3 due

	Centralized DBMS Reliability, Distributed Reliability and Failure Recovery, Distributed Two-Phase Commit - 2PC Protocol, Three-Phase Commit (3PC) Protocol, Dealing with Site Failures) Presentation	
Week 10 April 30, 2019	No class due to Public Holiday	
Week 11 May 7, 2019	1. State-of-Art Data Management Presentation	
Week 12 May 14, 2019	2. Parallel and Streaming Data Management Presentation	
Week 13 May 21, 2019	1. Data Warehousing and OLAP Presentation	
Week 14 May 28, 2019	1. Course Summary Presentation	
Week 15 June 4, 2019	Project Tutorial	
Week 16 June 11, 2019	Project Final Presentation and Demo	Project final demo and report due