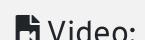




SCHEDULE

Last Updated: Dec 09, 2024

Date	Topic
Aug 25	#00: Course Overview & Logistics <i>(On-line Only)</i> <ul style="list-style-type: none"> Slides: Download Video: Watch Project: C++ Primer
Aug 26	#01: Relational Model & Algebra <ul style="list-style-type: none"> Slides: Download Notes: Download Video: Watch Readings: Chapters 1-2
Aug 28	#02: Modern SQL <ul style="list-style-type: none"> Slides: Download Notes: Download Video: Watch Readings: Chapters 3-5 Homework: SQL
Sep 02	Labor Day – No Class
Sep 04	#03: Database Storage I <ul style="list-style-type: none"> Slides: Download Notes: Download Video: Watch Flash Talk: Heikki Linnakangas (Neon) Readings: Chapter 12.1-12.4, 13.2-13.3
Sep 09	#04: Database Storage II <ul style="list-style-type: none"> Slides: Download Notes: Download Video: Watch Readings: Chapter 14.8.1, 24.2


[Download](#)

[Watch](#)

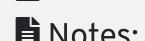
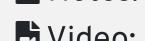
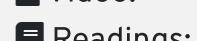
[C++ Primer](#)

[Download](#)

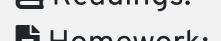
[Download](#)

[Watch](#)

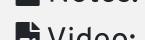
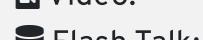
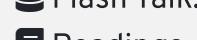

Chapters 1-2


[Download](#)

[Download](#)

[Watch](#)


Chapters 3-5

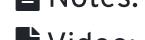

[SQL](#)

[Download](#)

[Download](#)

[Watch](#)

[Heikki Linnakangas \(Neon\)](#)


Chapter 12.1-12.4, 13.2-13.3


[Download](#)

[Download](#)

[Watch](#)


Chapter 14.8.1, 24.2

Sep 11	#05: Storage Models & Compression
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Xiang Fu (StarTree)
	Readings: Chapter 11.2, 13.6
	Homework: Storage
Sep 16	#06: Memory Management
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 13.2-13.5
Sep 18	#07: Hash Tables
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Niko Göbel (RelationalAI)
	Readings: Chapter 14.5, 24.5
Sep 23	#08: Indexes & Filters I
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 14.1-14.4
Sep 25	#09: Indexes & Filters II
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Ed Huang (PingCAP TiDB)
	Readings: Chapter 14.1-14.4, 24.1
	Homework: Indexes & Filters
Sep 30	#10: Index Concurrency Control
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 18.10.2
	Project: Database Index

Oct 02	#11: Sorting & Aggregations Algorithms Slides: Download Notes: Download Video: Watch Flash Talk: Drew Banin (dbt Labs) Readings: Chapter 15.4-15.5
Oct 07	#12: Joins Algorithms Slides: Download Notes: Download Video: Watch Readings: Chapter 15.4-15.6
Oct 09	Mid-Term Exam
Oct 14	Fall Break – No Class
Oct 16	Fall Break – No Class
Oct 21	#13: Query Execution I Slides: Download Notes: Download Video: Watch Readings: Chapter 15.1-15.3, 15.7 Project: Query Execution
Oct 23	#14: Query Execution II Slides: Download Notes: Download Video: Watch Flash Talk: Robert Schulze (ClickHouse) Readings: Chapter 22 Homework: Query Execution
Oct 28	#15: Query Planning & Optimization Slides: Download Notes: Download Video: Watch Readings: Chapter 16

Oct 30	#16: Concurrency Control Theory
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Mosha Pasumansky (Firebolt)
	Readings: Chapter 18
Nov 04	#17: Two-Phase Locking Concurrency Control
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 18.1-18.3, 18.9
Nov 06	#18: Timestamp Ordering Concurrency Control
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Etienne Dilocker (Weaviate)
	Readings: Chapter 18.5-18.6
	Homework: Concurrency Control
Nov 11	#19: Multi-Version Concurrency Control
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 18.7-18.8
	Project: Concurrency Control
Nov 13	#20: Database Logging
	Slides: Download
	Notes: Download
	Video: Watch
	Flash Talk: Mahesh Balakrishnan (Confluent)
	Readings: Chapter 19.1-19.8
Nov 18	#21: Database Recovery
	Slides: Download
	Notes: Download
	Video: Watch
	Readings: Chapter 19.1-19.9
Nov 20	#22: Introduction to Distributed Databases
	Slides: Download

	 Video:	Watch ↗
	 Flash Talk:	Jonathan Ellis (DataStax)
	 Readings:	Chapter 20.4-20.5, 21, 23.1-23.4
Nov 25	#23: Distributed OLTP Database Systems	
	 Slides:	Download ↴
	 Notes:	Download ↴
	 Video:	Watch ↗
	 Readings:	Chapter 20.4-20.5, 21, 23.1-23.4
Nov 27	Thanksgiving – No Class	
	 Homework:	Distributed Databases
Dec 02	#24: Distributed OLAP Database Systems	
	 Slides:	Download ↴
	 Notes:	Download ↴
	 Video:	Watch ↗
	 Readings:	Chapter 20.7, 22.9
Dec 04	#25: Final Review + Systems Potpourri	
	 Slides:	Download ↴
	 Video:	Watch ↗