






# SCHEDULE

 Last Updated: Dec 09, 2024








**Date    Topic**

## Aug 25 **#00: Course Overview & Logistics**









*(On-line Only)*

-  Slides: [Download](#) 
-  Video: [Watch](#) 
-  Project: [C++ Primer](#)

## Aug 26 **#01: Relational Model & Algebra**









-  Slides: [Download](#) 
-  Notes: [Download](#) 
-  Video: [Watch](#) 
-  Readings: Chapters 1-2

## Aug 28 **#02: Modern SQL**








-  Slides: [Download](#) 
-  Notes: [Download](#) 
-  Video: [Watch](#) 
-  Readings: Chapters 3-5
-  Homework: [SQL](#)



















Sep 02 **Labor Day – No Class**








































## Sep 04 **#03: Database Storage I**


















































-  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**

-  Slides: [Download](#) 
-  Notes: [Download](#) 
-  Video: [Watch](#) 
-  Readings: Chapter 14.8.1, 24.2

Sep 11	<b>#05: Storage Models &amp; Compression</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Flash Talk: <a href="#">Xiang Fu</a> (<a href="#">StarTree</a>)</li><li>Readings: Chapter 11.2, 13.6</li><li>Homework: <a href="#">Storage</a></li></ul>
Sep 16	<b>#06: Memory Management</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Readings: Chapter 13.2-13.5</li></ul>
Sep 18	<b>#07: Hash Tables</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Flash Talk: <a href="#">Niko Göbel</a> (<a href="#">RelationalAI</a>)</li><li>Readings: Chapter 14.5, 24.5</li></ul>
Sep 23	<b>#08: Indexes &amp; Filters I</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Readings: Chapter 14.1-14.4</li></ul>
Sep 25	<b>#09: Indexes &amp; Filters II</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Flash Talk: <a href="#">Ed Huang</a> (<a href="#">PingCAP TiDB</a>)</li><li>Readings: Chapter 14.1-14.4, 24.1</li><li>Homework: <a href="#">Indexes &amp; Filters</a></li></ul>
Sep 30	<b>#10: Index Concurrency Control</b> <ul style="list-style-type: none"><li>Slides: <a href="#">Download</a> </li><li>Notes: <a href="#">Download</a> </li><li>Video: <a href="#">Watch</a> </li><li>Readings: Chapter 18.10.2</li><li>Project: <a href="#">Database Index</a></li></ul>

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

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

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