

Schedule Databases 2025

Version 20250130 15:00, changes to last version will be marked.

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| Week date | Topics | Clips | Exercises | Assignment | Book |
|-------------------------|--|---|--|-----------------------|----------------------------|
| 6 tue Feb 4 | Intro; Relational model | | Defining your data | | 1; 2.1-2.3; 7.1.1 |
| 6 thu Feb 6 | Relational algebra | RA1 RA2 | Ex 1-5 (for SQL DDL: see slide model-ra:10) Algebra | | 4 - 4.6; rest of 2; |
| 7 tue Feb 11 | ERD FD: concept | FD1 erratum[16]: C -> B does not hold | Ex 6-9 FDs ; | | 3 - 3.1 |
| 7 thu Feb 13 | More FDs: lossless decomposition, BCNF | FD2 | Ex 10-12 Lossless decompositions | Deadline HW 1 | 3 - 3.3, not 3.2.8 |
| 8 tue Feb 18 | SQL | SQL1.1 SQL1.2 | Queries | | 6 - 6.5; 7-7.2, <7.3>, 7.4 |
| 8 thu Feb 20 | Further normalization: 3NF, DP | NORM1 NORM2 | Ex 15-19 Lab1 | | 3.4 (with <3.4.2>), 3.5, |
| 9 tue Feb 25 | 4NF, indexing | | Qualities of decompositions Ex 20-22 | | 3.6 - 3.6.2, 3.6.4; 8.3 |
| 9 thu Feb 27 | Constraints, triggers, view | | Lab 1 Ex 25 | | 7 - 7.5; 8; 10.1; |
| 10 tue Mar 4 | <i>Break: no classes</i> | | Lab 1 | Deadline HW 2 | |
| 10 thu Mar 6 | <i>Break: no classes</i> | | Lab 1 | | |
| 10 fri Mar 7 | | | | Deadline lab 1 | |

Two more pages

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|--------------------------|---|--|---|-----------------------|---|
| 11 tue Mar 11 | TP: concurrency | CC1 CC2 | Ex 26-32 | | 18 - 18.3, 18.4.1, 18.4.2, <remainder of 18.4>, |
| 11 thu Mar 13 | TP: recovery | REC1 REC2 REC3 | Ex 35-38 Recovery | | 19.2.1, 19.2.2; 17, 19.-19.1.5; |
| 12 tue Mar 18 | 2PC; Query processing (algebraic rewriting) | 2PC QP1 | Ex 39-40, 44 | | 20.5; 15.1, 15.1.3, 15.1.4, 15.3 - 15.3.4 15.4.6, <15.6.1 - 15.6.3> |
| 12 thu Mar 19 | Query processing (algorithms) | QP2 QP3 QP4 | Session 6 Query processing | Deadline HW 3 | <16.1>, 16.2, 16.3 (with<16.3.2>) |
| 13 tue Mar 25 | Guest lecture by Yannis Velegrakis | | | | |
| 13 thu Mar 27 | NO-SQL focus: MapReduce | | | | |
| 14 tue Apr 1 | Example examination | | | | |
| 14 thu Apr 3 | Spare | | | Deadline lab 2 | |

Assorted topics

Information Integration: An Introduction

<https://medium.com/cracking-the-data-science-interview/an-introduction-to-big-data-data-integration-40715baa7961>

Data Cleaning:

<https://www.youtube.com/watch?v=GMxCL0PBHzA>

RDF (Adding Semantics to your data)

https://www.europeandataportal.eu/sites/default/files/d2.1.2_training_module_1.3_introduction_to_rdf_sparql_en_edp.pdf

Big Data:

<https://www.youtube.com/watch?v=bAyrObl7TYE>

NoSQL Databases:

https://www.youtube.com/watch?v=uD3p_rZPBUQ

https://www.youtube.com/watch?v=ql_g07C_Q5I&t=30s