

Introduction to Selected Topics in Database Research and Practice

Christian Thomsen & Søren Kejser Jensen

Contact Information

- First half
 - Teacher: Christian Thomsen
 - Office: 3.2.49
 - Email: *chr@cs.aau.dk*
- Second half
 - Teacher: Søren Kejser Jensen
 - Office: 4.2.32
 - Email: *skj@cs.aau.dk*
- Course homepage:
 - Slides, reading material, case,
 - <https://www.moodle.aau.dk/course/view.php?id=48267>

Topics

- Multidimensional databases
 - Data warehousing
 - Performance improvements
- Complex data in databases
 - JSON
- Spatial databases
 - incl. indexing and querying
- Distributed DBMSs
- Time Series Management Systems

Literature

- **Multidimensional Databases and Data Warehousing**, Jensen, Pedersen, and Thomsen. Springer Nature, 2010
<https://link.springer.com/book/10.1007/978-3-031-01841-1>
- Papers and online resources
- You don't have to buy any books

Course structure

- Lectures
 - We cover the topic of the day
 - Make sure to read the material shortly before or after the lecture
- Lectures are followed by exercise sessions
 - Done in your group rooms
 - Go through the given exercises and discuss your solutions
 - We will come around, but feel free to send us an email if you need help
 - Bring your solutions to the next lecture

Case

- In this and the following lectures, we will cover *data warehousing*
- You will work on a case in which you implement a data warehouse solution for the “F-Klub”
- Your solution is **not graded** (it is ***not a project!***), but it will give you valuable knowledge and experience for the exam

Case

- The case work consists of different tasks – see “General Course Materials” on Moodle
- There will be small hand-ins
 - If you meet the given deadline, I will give you feedback (not a detailed review)
- You can work on the case in small groups of 3 – 4 persons
- It is totally fine to discuss ideas/solutions with other groups, but don't copy someone else's work

Case sessions

- Done during **scheduled** time slots on Fridays
 - Spend the planned time
 - You don't have to spend more time
- Done in group rooms
 - (There is no lecture)
- Work on the case (and not something else) during the sessions
- Talk to each other when you need help
- Send me an email if you still need help
 - Sometimes I might be doing something else (teaching, meetings, ...) during your case work

Exam

- Oral exam
- 20 mins
- More information in the end of the course