# Advanced Topics in Databases

Summer

(in German: Advanced Topics in Databases )

**Module-ID: FIN-INF-120277**

| Abbreviation | Credit Points | Semester | Term | Duration | Language | Level |
|---|---|---|---|---|---|---|
| ATDB | 6 | Summer | starting at 1. | 1 Semester | english | Master |

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| **Link:** | LSF |
| **Limited accessability:** | |
| **Responsibility:** | Gunter Saake |
| **Lecturer:** | David Broneske |
| **Classes:** | • Lecture *Advanced Topics in Databases*<br>• Exercise *Advanced Topics in Databases* |
| **Applicability in curriculum:** | - M.Sc. INF: Informatik<br>- M.Sc. INGINF: Informatik<br>- M.Sc. WIF: Informatik<br>- M.Sc. DKE: Data Processing for Data Science<br>- M.Sc. DE: Methoden der Informatik<br>- M.Sc. DE: Fachliche Spezialisierung<br>- M.Sc. VC: Computer Science |

**Intended learning outcomes:**
The students ...

- understand selected advanced topics in databases

- know state-of-the-art solutions for current problems in database research
- assess advanced solutions for current database systems
- can apply advanced methods in database implementation techniques

**Content:**
Topics of the lecture will frequently change in accordance with current research directions in the database community and represent cutting-edge aspects. Current Topics:

- Main-memory database algorithms and techniques
- Heterogeneous processing in database systems
- Advanced indexing ans storage techniques
- Storage techniques for NoSQL database systems

**Workload:**
56h contact hours + 124h self-study

| **Pre-examination requirements:** | **Type of examination:** | **Teaching method / lecture hours per week (SWS):** |
|---|---|---|
| Successful participation in the exercise | Oral exam | • 2 SWS Lecture<br>• 2 SWS Exercise class |

| **Prerequisites according to examination regulations:** | **Recommended prerequisites:** |
|---|---|
| none | • Knowledge about database foundations and about principles of internal database operations<br>• Basic programming skills |

| **Media:** | **Literature:** |
|---|---|
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**Comments:**

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