# Distributed Data Management

Winter

(in German: Distributed Data Management )

## Module-ID: FIN-INF-102404

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

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|---|---|
| **Link:** | LSF |
| **Limited accessability:** | false |
| **Responsibility:** | Gunter Saake |
| **Lecturer:** | Eike Schallehn |
| **Classes:** | • Lecture *Distributed Data Management*<br>• Exercise *Distributed Data Management* |
| **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: Fachliche Spezialisierung<br>- M.Sc. VC: Computer Science |

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

- know basic principles and advantages of distributed data management
- can implement distributed databases

- understand query and transaction processing in distributed and parallel database systems
- optimize the run-time performance and satisfy requirements regarding reliability and availability of distributed systems

**Content:**

- Overview and classification of distributed data management (distributed DBMS, parallel DBMS, fedrated DBMS, P2P)
- Distributed DBMS: architecture, distribution design, distributed query processing and optimization, distributed transactions, and transactional replication
- Parallel DBMS: fundamentals of parallel processing, types of parallelization in DBMS, parallel query processing

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

| Pre-examination requirements: | Type of examination: | Teaching method / lecture hours per week (SWS): |
|---|---|---|
| To be eligible to take the exam, you must have completed certain prerequisites. Further details will be announced in the first lecture. | Written exam (120 min) | • Vorlesung 2 SWS<br>• Übung 2 SWS |

| Prerequisites according to examination regulations: | Recommended prerequisites: |
|---|---|
| none | Database introduction course |

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

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