

*Information Systems*  
*Organization*

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# Organization

- ▶ Course web page:

<http://www.risc.uni-linz.ac.at/education/courses/ws2010/is/>

- ▶ Intended audience: students of mathematics who did not study related subjects before.
- ▶ Literature:
  - ▶ C. J. Date: An Introduction to Database Systems. Eights edition, Addison Wesley, 2004.
  - ▶ G. Brill: Codenotes for XML, Random House, 1998.
  - ▶ Lecture notes from the previous years.
  - ▶ Slides.
  - ▶ Material from the Web.
- ▶ Exercises will be given.
- ▶ Written exam at the end of the semester.

# Course Structure

Two parts:

- ▶ Databases
- ▶ XML

# Course Structure. Databases part

- ▶ Theoretical foundations:
  - ▶ Relational data modeling;
  - ▶ Web-based information systems with relational database support (briefly).
- ▶ Practical tools:
  - ▶ MySQL.

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  - ▶ Relational data modeling;
  - ▶ Web-based information systems with relational database support (briefly).
- ▶ Practical tools:
  - ▶ MySQL.

**Goal:** After the course, the student should have

- ▶ a clear concept of elementary problems and solution techniques in relational data modeling,
- ▶ basic knowledge in relational database manipulation.

# Course Structure. XML part

- ▶ Basics:
  - ▶ Data description;
  - ▶ Document validation, transformation, querying.
- ▶ Tools:
  - ▶ XML editing and validation tools.
  - ▶ SAXON - The XSLT and XQuery Processor.

# Course Structure. XML part

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  - ▶ Data description;
  - ▶ Document validation, transformation, querying.
- ▶ Tools:
  - ▶ XML editing and validation tools.
  - ▶ SAXON - The XSLT and XQuery Processor.

**Goal:** After the course, the student should be able

- ▶ to create moderately complex XML documents,
- ▶ validate them using XML Schema,
- ▶ address their parts using XPath,
- ▶ transform them into a displayable HTML documents by XSLT.