# Database Systems (ECTS 6)

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Language: the course is offered in Serbian and Hungarian.

Course description:

The purpose of this course is to provide comprehensive introduction to the design of necessary data models for development of data bases, to the use of data management systems. The course covers the fundamental concepts of database systems: data models (ER, relational, object-oriented), normalization, query language (SQL), and the use of MSSQLSERVER.

This course would cover the following topics, both as lectures and exercises:

1. Introduction
2. Data models
3. ER model
4. Relational model
5. Normalization
6. Converting ER model to relational model
7. MSSQLSERVER
8. SQL – DDL
9. SQL – DML
10. SQL – SELECT
11. SQL – JOIN
12. SQL – INNER SELECT
13. SQL – JOIN vs.INNER SELECT
14. SQL – UNION, INTERSECT, MINUS
15. Closing remarks

Aims:

At the conclusion of the course, the student is able to: understand terms related to database design and management, understand the objectives of data and information management, understand the database development process, understand the relational model and relational database management system, construct conceptual data models, develop logical data models, evaluate the normality of a logical data model, and correct any anomalies, develop physical data models for relational database management systems, implement relational databases using a RDBMS and retrieve data using SQL.