

Course descriptions

Course name: Database systems I.	Credits: 5
Class type: lecture/lab, hours per week: 2/2	
Type of the exam: oral exam	
Semester:	
Prerequisites (if exist): Data Structures and Algorithms	
Course description:	
Database architectures, conceptual data models: E/R diagrams, relational model. Dependencies: functional and multivalued. Decompositions: dependency-preserving, lossless. Normal forms: 1-4 NF, BCNF. Lossless, dependency-preserving decomposition into 3NF. Database language, data query language: relational algebra, SQL. Introduction to transaction handling. Recovery systems. Object-oriented extensions of the relational model, object-oriented design of databases. Logical data model, Datalog. Introduction to bounded data-modelling and its applications.	
Required reading:	
Á. Bércesné Novák, J. Csima, Z. Fodróczy, GY. Y. Katona, A. Sali: Foundation and Practice of relational database Systems, 2004; Silberschatz, Korth, Sudarshan: Database System Concepts, McGraw Hill, 2005; P. Revesz: Introduction to Constraint Databases, Springer, 2000; G. Wagner: Foundations of Knowledge Systems with applications to Databases and Agents, Kluwer Academic Publishers, 1998.	
Recommended reading:	
Serge Abiteboul, Richard Hull, Victor Vianu: Foundations of Databases. Addison-Wesley 1995.	
Lecturer (<i>name, position, degree</i>): <i>Dr. Ágnes Bércesné Novák</i> , associate professor, PhD	
Additional lecturers , if exist (<i>name, position, degree</i>): Dr. Ágnes Bércesné Novák, Dr. Gergely Lukács , associate professor / associate professor, PhD / PhD	