

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Management	
Course ID: FM.KIS/003AB/25	Course title: Data Management
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 2 / 2 per level/semester: 28 / 28 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 1., 3.	
Educational level: I., II.	
Prerequisites:	
Recommended prerequisites: Computer Science, Information Systems and Application Software, Project Management	
Course requirements: The schedule for the completion of each task is according to the updated syllabus of the course. Project – 60% • Analysis of the current state of the company (Selection of the company and analysis of business processes) – 10% • Design of the database system solution – 20% • Creation and presentation of the database system – 30% Exam (written test and/or oral exam) – 40% Scale of assessment (preliminary/final): During semester: Project 60%, Midterm or/and Final Exam 40%	
Learning outcomes: The aim of the course is to teach students the basic concepts and principles of relational database theory, the basics of modeling and creating database systems, and the principles of transactional systems. During the exercises, students will gain practical skills and experience in data processing, SQL language, and database systems such as desktop databases and SQL servers.	
Class syllabus: 1. Introduction to Database Theory: Database, Database System, DBMS, Relational Databases 2. Basics of Data Model Design: Conceptual Model, Logical Model, Physical Model 3. Principles of Data Handling: Relational Algebra, Queries 4. SQL 5. Database Normalization: Normal Forms – 1NF, 2NF, 3NF 6. Database System Design and Business Process Analysis: DFD – Data Flow Diagram, WFD – Workflow Diagram 7. Overview of Database and SQL Server Technologies: Principles of SQL Servers 8. OLTP and OLAP Databases 9. Data Warehouses and Data Mining	

10. BI – Business Intelligence, Data Analytics
11. Database System Security
12. New Trends in Databases (NoSQL, Cloud database systems)

Recommended literature:

- [1] OPPEL, A., 2004. Databases Demystified. McGraw-Hill, 2004. ISBN: 007-225364-9
- [2] KROENKE, D. M., AUER, D. J., 2015. Database Concepts, 6th Edition, Pearson Education, 01-32-742-926
- [3] CONOLLY, T., BEGG, C., 2015. Database Systems: A Practical Approach to Design, Implementation, and Management, 6th Edition, Pearson, ISBN: 978-1-292-06118-4
- [4] CONOLLY, T. – BEGG, C. – HOLOWCZAK, R., 2008. Business Database Systems 1st Edition. Pearson Education Limited, 2008. ISBN: 978-1-4058-7437-3
- [5] BEAULIEU, A., 2020, Learning SQL: Generate, Manipulate, and Retrieve Data, 3rd Edition, O'Reilly Media, ISBN: 978-1492057611
- [6] SILVA, R., 2023, MySQL Crash Course: A Hands-on Introduction to Database Development, No Starch Press, ISBN: 978-1718503007

Languages necessary to complete the course:

English

Ethics:

The syllabus lists knowledge, skills, competences and transferable skills that the students will acquire by successfully completing the course. These will impact on their personal development and can be used both in their future careers and in their lives as active citizens in democratic societies.

Following the provisions of Internal Regulation of the Comenius University Bratislava - Internal system of ensuring the quality of higher education of the Comenius University Bratislava, *each student consistently achieves his/her study results honestly during his/her studies; does not cheat or use dishonest procedures during any form of verification of his study knowledge and knowledge*. Cases of violation of this provision can be assessed as a violation of obligations arising from legal regulations (...). Such an assessment may be associated with applying relevant legal consequences on an academic, (...) or disciplinary level.

Following the provisions of Internal Regulation of the Comenius University Bratislava - Disciplinary regulations of the Comenius University Bratislava for students, *a student's disciplinary offence is any form of writing off or illegal cooperation or hinting during the written or oral evaluation of study results (knowledge verification) or during preparation for it within the course, or the use of technical devices or any information carriers in a way other than permitted during the written or oral evaluation of study results (knowledge verification) or during preparation for it within the subject*. Some of the disciplinary measures may be imposed on the student for a committed disciplinary offence: reprimand, conditional expulsion from studies or expulsion from studies.

Notes:

Past grade distribution

Total number of evaluated students: 56

A	ABS	B	C	D	E	FX	M
17,86	0,0	17,86	28,57	16,07	7,14	5,36	7,14

Lecturers: doc. RNDr. Michal Greguš, PhD., Ing. Rastislav Kulháněk, PhD., PhDr. Marek Hlásny

Last change: 16.09.2025

Approved by: prof. Mgr. Anna Lašáková, PhD.