Óbuda University John von Neumann Faculty of Informatics	Institute of Software Engineering
Name and code: Databases (NIXAB0EBNE)	**Credits:** 4
Computer Science BSc	*Daytime 2020/21 year I. semester*

Subject lecturers: Zsolt Szabó-Resch, Ármin Romhányi				
Prerequisites: (with code)				
Weekly hours:	Lecture: 2	Seminar: 0	Lab. hours: 2	Consultation: 0
Way of assessment:	Midyear grade			

Course description

Goal: The students will obtain competency in the basics of the SQL language, and they will obtain practice in creating queries.

Course description: Introduction to the relational principle, SQL SELECT: Suffixes FROM, WHERE, GROUP BY, HAVING, ORDER BY. DDL/DML. OOP Approaches and basics of NoSQL. Introduction to serverside programming

Lecture schedule

Education week	Topic
1	*Lecture*: Introduction to relational databases *Practices*: Project topic and creation of diagrams *Project*: Project topic (ER + Table structure diagram)
2	*Lecture*: SQL Select, From, Where, Order By *Practices*: SQL Practice (A1, Select basics) *Project*: —
3	*Lecture*: SQL Group By *Practices*: SQL Practice (A2, Group by) *Project*: —
4	*Lecture*: SQL Join *Practices*: SQL Practice (A3, Join) *Project*: —
5	*Lecture*: DDL, DML (A4) *Practices*: SQL Complex Practice (A5, Cars) *Project*: —
6	*Lecture*: — *Practices*: SQL Complex Practice (A5, Cars) *Project*: Create Table + Insert Into
7	*Lecture*: Rank and analytics *Practices*: Project checkup: ER+Table Structure+CREATE TABLE+Insert+Verification *Project*: —
8	*Lecture*: Usage of OOP with relational tables *Practices*: Project checkup: ER+Table Structure+CREATE TABLE+Insert+Verification *Project*: —
9	*Lecture*: Basics of NoSQL *Practices*: SQL Complex Practice (A6, Handball1) *Project*: Should have 1/3 of the queries
10	*Lecture*: Basics of procedures/functions/triggers *Practices*: SQL Complex Practice (A7, Handball2) *Project*: —
11	*Lecture*: Data Access, Indices, Relational algebra/calculus, DCL *Practices*: Practice consultation for ZH *Project*: Should have 2/3 of the queries
12	*Lecture*: Theory consultation for ZH *Practices*: Project consultation for deadline *Project*: — *ZH*: Practice ZH
13	*Lecture*: — *Practices*: Project defense *Project*: — *ZH*: Theory ZH
14	*Lecture*: — *Practices*: Project defense *Project*: — *ZH*: Retake ZH

Midterm requirements

Signature: The completion of both tests and the project work is required for the grade.

Midterm Test Scheduling

Education week	Topic
12	Practice ZH
13	Theory ZH
14	Retake ZH

Midterm grade calculation methods

Grade: The grade is calculated by the average of the two tests, with the project work being able to affect the final grade by one rank.

Method of replacement

If the tests are not completed successfully, they can be re-tried on the last week.

If the test or the project work is not completed successfully by the end of the regular semester, then they have to be completed by the signature retake deadline.

Type of exam

Exam grade calculation methods

References

Obligatory:

Powerpoint presentations that can be downloaded from the webpage or from the Moodle system http://w3schools.com/SQL/default.asp
Recommended:
Elmasri, Navathe: Fundamentals of Database Systems Ullman, Widom: First course in database systems
Others: