

Syllabus

Course	SQL for Business: Beginner
Instructors	Micsko Krisztian
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Office hours	by appointment
Credits	0 US credits (0 ECTS credits)
Module	Data Tools and Analytics
Term	FALL 2020-2021
Course level	Master's
Prerequisites	None
Course drop	As described by the Regulations of the MS in Finance program, please check here

1. COURSE DESCRIPTION

Structured Query Language (SQL) is a programming language that is used to communicate with and manipulate databases. In order to get the most of the mounds of data they collect, many businesses must become versed in SQL.

SQL programs are put in place by businesses and other organizations as a way to access and manipulate the information and data that is stored in their databases, as well as for creating and altering new tables. With so many companies now relying on big data analytics to drive their direction, employees with SQL skills and backgrounds are some of the most sought after by employers.

This course introduces the basics of SQL from the perspective of database users in large organizations. You will learn (i) How to structure queries for desired results (ii) how to link different data tables

2. LEARNING OUTCOMES

Core Learning Area	Learning Outcome
Technology Skills	Use SQL language to gain data from relational database. Write structured queries to provide data for reporting purposes. Understand the selection and join logics.
Logical thinking	Understand the connection between multiple database tables, use primary keys to create connections between tables. Use aggregate functions to gain data on several granularities.
Business relation	<ul style="list-style-type: none">- Understand the business needs / requirements of various reports- Define the query to gain the required data from the database- If any calculation, statistic is needed into the report, it can be done by the SQL- Companies are having massive datasets, that has to be handled, maintained, executed by SQL

3. READING LIST

All course materials will be distributed electronically on the [Ceulearning website](#).

Textbooks.

Course materials such as lecture slides, preparation sheets, SQL codes, examples and other readings will be posted in advance on the Moodle E-learning system.

For each session you will be provided with homework. There is no required textbook.

Databases. The CEU Library boasts a range of databases covering financial and company data, market and industry reports, global news and more. For a full list of databases visit the [CEU Library](#).

4. TEACHING METHOD AND LEARNING ACTIVITIES

- Case Studies
- Real Life Examples
- Panel Discussions
- Lectures

5. ASSESSMENT

- There will be ONE closed-book final exam, to be held in the final lecture. The exam will be one hour long. **(100%)**.
- Also retake exam is provided 1 week after the first exam
- The sessions are mandatory to fulfill the requirements and getting allowed to go to the exams. 20% of the sessions can be missed.

6. TECHNICAL REQUIREMENTS

- Notebook is required
- Students will have access to CEU server. On the sessions they will follow the materials on their notebook.
- The exam will also require the Notebook

7. TOPIC OUTLINE AND SCHEDULE

1. Introduction
 - Install MySQL Workbench
 - What is SQL?
 - What is a database and its types?
 - Basic queries.
2. WHERE, ORDER BY, LIMIT, Aliases
 - Where conditions
 - Order by logics / limitations
 - Use aliases
3. Scalar Functions, Dates

- Use scalar functions to manipulate the data
 - Use data functions and different formats
4. Subqueries
 - Use subqueries for gaining complex dataset
 5. GROUP BY, HAVING
 - Use grouping logic and aggregate functions to create complex results
 6. CASE WHEN, UNION
 - Useful techniques to sophisticate the result
 7. JOINS
 - Understand the different types of join logics
 8. JOINS
 - Create complex join strategy to gain data from various tables / Practicing
 9. Exercise
 - Review some business examples / Practicing
 10. Exercise
 - Practicing for the exam
 11. Final Exam (1 session)
 12. Retake Exam (1 session)