האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

SQL databases for Geography - 40340

Last update 19-09-2024

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Geography

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Dr. Royi Zidon

Coordinator Email: Royi.Zidon@mail.huji.ac.il

Coordinator Office Hours: Only coordinating by e-mail

Teaching Staff:

Dr. royi zidon

Course/Module description:

The course provides the students with the basic concepts of relational database management systems (RDBMS), which are the infrastructure upon which geographic databases are built. The course covers the basic concepts of data bases, schema design, and manipulation and retrieval of data stored in a database. Special emphasis will be given to SQL, as a DDL (Data Definition Language) which allows us to define the database schema, as a DML (Data Manipulation Language) which allows inserting, updating and deleting data from a database, and as a Query Language which allows us to retrieve information of a database.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:

At the end of the course, the student will be able to:
(a) design the conceptual schema of a database.
(b) use the SQL language in order to:
(b.1) define the logical schema of a relational database.
(b.2) insert, delete, and update data in a relational database.
(b.3) retrieve information by querying the database.

Attendance requirements(%):

two quizzes

Teaching arrangement and method of instruction: Frontal instruction at a computer lab.

Course/Module Content:

• Basic concepts and introduction (what is a database, the concept of data model and its components).
• The Entity-Relationship Model (ERM) as a tool for designing the conceptual schema of a database.
• The Relational Model (introduction and basic concepts).
• Basic Principles of the Relational Algebra and the query language SQL.

Required Reading:
None

Additional Reading Material:
Learning SQL: Generate, Manipulate, and Retrieve Data 3rd Edition by Alan Beaulieu

Grading Scheme:
Computerized Exam - At the cluster % 50
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 10 %
Mid-terms exams 40 %

Additional information:
Weekly exercises for submission will be given.

three short quizzes will be given during the semester.