The Hebrew University of Jerusalem

Syllabus

Databases - 67506

Last update 19-12-2023

<u>HU Credits:</u>   5

<u>Degree/Cycle:</u> 1st degree (Bachelor)

<u>Responsible Department:</u> Computer Sciences

<u>Academic year:</u> 0

<u>Semester:</u> 1st and/or 2nd Semester

<u>Teaching Languages:</u> Hebrew

<u>Campus:</u> E. Safra

<u>Course/Module Coordinator:</u> Sara Cohen

<u>Coordinator Email:</u> sara@cs.huji.ac.il

<u>Coordinator Office Hours:</u> Coordinated in advance

<u>Teaching Staff:</u>

Prof Sara Cohen,
Dr. Rachel Behar

Course/Module description:
Fundamentals of Database Management Systems.

Course/Module aims:
See learning outcomes

Learning outcomes - On successful completion of this module, students should be able to:
Understand database fundamentals
Design a database schema
Theoretically analyze the quality of a database schema
Formulate queries in both a formal and practical query language
Analyze query plans
Determine the safety of parallel transactions

Attendance requirements(%):

*Teaching arrangement and method of instruction: * Lecture: asynchronous*
* Tirgul: synchronous

Course/Module Content:
Schema design
Data models
Query languages
Design theory
Query optimization Transaction management
Recovery - cut from this year's material, due to shortening of semester
NoSQL - cut from this year's material, due to shortening of semester

Required Reading:
None

Additional Reading Material:
NA

<u>Grading Scheme:</u>
 Written / Oral / Practical Exam 65 %
 Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 25 %
 Mid-terms exams 10 %

<u>Additional information:</u>
 In semester aleph, the course is open only for students who will be missing at least 2 weeks of classes due to miluim. In semester aleph the course will be self-paced, with no in-class lessons, to make it easier to learn given the variety of time constraints that students who were in miluim have.

In semester bet, the course will be given in its regular format.