האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Cave Biology & Ecology - 90901

Last update 03-11-2024

HU Credits: *3*

Degree/Cycle: *2nd degree (Master)*

Responsible Department: *Ecology, Evolution & Behavior*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *Hebrew*

Campus: *E. Safra*

Course/Module Coordinator: *Dr. Efrat Gavish-Regev*

Coordinator Email: *efrat.gavish-regev@mail.huji.ac.il*

Coordinator Office Hours: *Mondays, 16:00*

Teaching Staff:

Dr. Efrat Gavish-Regev

Course/Module description:

The Cave Biology and Ecology course will deal with the uniqueness of hypogean habitats, from biotic and abiotic aspects, the main hypotheses of evolution in caves and the evolutionary mechanisms that allowed adaptions and speciation in caves. The course will include historical review of cave biology research, research approaches, basic concepts, special food-web and assemblages. As part of the course we will visit two caves in different levels of tourism and conservation, and discuss conservation climate change and tourism effects.

Course/Module aims:

To become acquainted with hypogean habitats and understand their role in inferring evolutionary processes in isolated habitats, and simple. To learn tools to estimate cave diversity and conservation of caves.

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

The students will be able to evaluate the cave diversity and the variables enables food-web existence, and the risks to the cave fauna.

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Lectures, exercises, field trips, discussions

Course/Module Content:

- Introduction to hypogean habitats, isolation, cave zone, environmental conditions

- Cave Assemblages
- Introduction to cave geology
- Evolution, adaptions and speciation in caves.
- Troglomorphism
- energy sources
- food web, ecological interactions, diversity of producers and decomposers
- conservation, truism
- species ecological assessments
- climate change effect on caves
Chemoautotrophic caves and hotspots

Required Reading:

The biology of caves and other subterranean habitats
https://huji.primo.exlibrisgroup.com/discovery/fulldisplay?context&eq;L&vid&eq;972HUJI_INST:972HUJI_V1&search_scope&eq;MyInstitution&tab&eq;Search_Options&docid&eq;alma9920927211603701

Additional Reading Material:

Moldovan, Kováč, Halse, Editors, 2018, Cave Ecology, https://link.springer.com/book/10.1007/978-3-319-98852-8

Culver and White, Encyclopedia of caves

Culver and Pipan, 2009. The Biology of Caves and Other Subterranean Habitats

https://huji.primo.exlibrisgroup.com/discovery/fulldisplay?context&eq;L&vid&eq;972HUJI_INST:972HUJI_V1&search_scope&eq;MyInstitution&tab&eq;Search_Options&docid&eq;alma9920927211603701
Romero 2009, Cave Biology: Life in Darkness, 10.1017/CBO9780511596841

Grading Scheme:

Essay / Project / Final Assignment / Home Exam / Referat 60 %
Active Participation / Team Assignment 10 %
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 30 %

Additional information:

2.3.2025-6.3.2025
One-week course, 2 field days in caves
100% Attendance