The Hebrew University of Jerusalem

Syllabus

Introduction to Evolutionary Biology - 72368

Last update 06-03-2025

HU Credits: 4

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Life Sciences

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Ariel Chipman

Coordinator Email: ariel.chipman@mail.huji.ac.il

Coordinator Office Hours: By appointment, Silberman building, room 3-344

Teaching Staff:

Prof. CHIPMAN ARIEL,
Dr. Oren Kolodny,
Ms. Sivan Ben Dror,
Ms. Ayelet Zion,
Mr. Omer Setty

Course/Module description:

An introduction to evolutionary biology. The course will present the principles of evolution from the molecular level to the whole organism in its environment. the different disciplines and methodologies within evolutionary biology will be presented. The course will discuss different approaches to evolutionary questions, with an historical overview of how ideas and approaches developed. The course will cover basic research tools in evolutionary biology.

Course/Module aims:

To understand the evolutionary theory and its central place in biological thinking.

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

- To describe and explain the principle of natural selection and its manifestations at different biological levels.
- To find evidence for the action of evolution in all areas of biological research
- To explain the evolutionary principles behind biological phenomena
- To understand the meaning behind a phylogenetic tree
- To understand the basics of human evolution

Attendance requirements(%):

No requirement. 2 bonus points will be given to participants who will submit assignments (See details).

Teaching arrangement and method of instruction: Lecture and exercise

Course/Module Content:

Principles of Evolutionary Biology
The Evidence for Evolution
Evolutionary genetics
Molecular Evolution
Phylogenetic trees and evolutionary reconstructions
Evolution of behavior

Sexual selection
Advanced Evolutionary Genetics
Evolutionary Developmental Biology
Tempo and Mode in Evolution
Species and Speciation
Human Evolution

Required Reading:
Herron & Freeman "Evolutionary Analysis" 5th Edition

Additional Reading Material:
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Grading Scheme:
Written / Oral / Practical Exam 100 %

Additional information:
Weekly tutorials will be held from the first week. Studenst who are present at 11 lectures will get a 2 point bonus. Students who are present at 10 tutorials will get an additional 2 point bonus/