האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

The evolution of the animal kingdom - 90106

Last update 17-01-2016

HU Credits: 4

Degree/Cycle: 2nd degree (Master)

Responsible Department: ecology, evolution & behavior

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Ariel Chipman

Coordinator Email: Ariel.Chipman@huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Prof
Ms.

Course/Module description:
The course provides tools for dealing with research questions in evolutionary biology, through a survey of the main stages and events in animal evolution, starting from the a-biotic changes of the Precambrium and to the appearance of modern taxa. The course presents different tool in evolutionary research: Paleontology, comparative anatomy, embryology and molecular biology, and demonstrates how they can be used to understand and reconstruct evolutionary processes. Throughout the historical survey the most suitable tools for addressing each topic will be emphasized. The course includes frontal lectures, exercises and demonstration of relevant paleontological and current material.

Course/Module aims:

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

To identify the main groups in the animal kingdom as fossils and as living organisms

To synthesize information from different sources in order to understand evolutionary processes
To follow long term processes in evolution
To demonstrate evolutionart processes by comparing different organisms
To connect the fossil record to evolutionary processes
To generalize from the evolution of specific taxa to global events

Attendance requirements(%):
80

Teaching arrangement and method of instruction: lecture, lab demonstration, exercises

Course/Module Content:
Tools and methods in evolutionary biology
Life in the Precambrian
The Cambrian explosion
Bilaterian phyla

The Cambrian world
The Ordovician and Silurian
Land at last / the Devonian
Tetrapods / The Carboniferous
Amniotes and the attainment of full terrestriality / The Permian
The marine Mesozoic
The Mesozoic on land
The Cenozoic
The Pleistocene

Required Reading:
none

Additional Reading Material:
Dawkins, R. – The ancestor's tale
Fortey, R. – Life: an unauthorized biography
Kardong, K. – Vertebrates (2nd or 3rd edition)
Benton, M. – Vertebrate paleontology
Enay, R. – Palaeontology of invertebrates
Valentine, J. – On the Origin of Phyla
Barton, N.H., Briggs, D.E.G., Eisen, J.A., Goldstein, D.B., Patel, N.H. - Evolution

Course/Module evaluation:
End of year written/oral examination 80 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 20 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: