



## *Syllabus*

# **INTRODUCTION TO PALEONTOLOGY - 70102**

*Last update 05-11-2015*

*HU Credits:* 3

*Responsible Department:* geology

*Academic year:* 0

*Semester:* 1st Semester

*Teaching Languages:* Hebrew

*Campus:* E. Safra

*Course/Module Coordinator:* Dr. Rivka Rabinovich

*Coordinator Email:* [rivkar@mail.huji.ac.il](mailto:rivkar@mail.huji.ac.il)

*Coordinator Office Hours:* By appointment

*Teaching Staff:*

Dr. Rivka Rabinovich

Ms. Yael Leshno

Ms. Dotan Shaked

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### Course/Module description:

The course is intended to teach the basic principles of Invertebrate and Vertebrate Paleontology by introducing the background of paleoecology, biostratigraphy and taphonomy. Life on earth, emphasizing the main fossil groups and their recent representatives. For each fossil group (e.g., microfossils, sponges, mollusks) we will focus on its physiology, evolution and biogeography.

### Course/Module aims:

Learning basic paleontological principles while being aware of current research issues and their relevance to geological and biological studies.

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

have a comprehensive idea about the life on earth and its evolutionary importance, to be able to identify main fossil groups, to be able to read recent articles in paleontology.

### Attendance requirements(%):

100%

Teaching arrangement and method of instruction: Frontal lecture with a vast interaction discussion with the students. Labs where fossils are presented, followed by lab report.

### Course/Module Content:

1. Introduction to Paleontology, fossils, modes of fossilization.  
Lab - Introduction to fossils.
2. Taxonomy principles; Introduction to Evolution (1).
3. Evolution (2); Modern genetics and its implication to paleontology.
4. Terrestrial and marine ecological systems.
5. Development of life on earth; biostratigraphy.
6. Micropaleontology - basic methods of identification and quantification.
7. Mollusk- systematics, biogeography.
8. Sponges and corals - systematics, biogeography.
9. Echinodermata; Arthropoda; Brachiopoda - systematics, biogeography
10. Vertebrate paleontology - early evidences, systematics, biogeography.
11. Dinosaurs - systematics, biogeography.
12. Mammals - early mammals, systematics, biogeography.
13. Summary of major events of life on earth.
14. Israeli paleontological record, main localities and finds

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Required Reading:

Benton, M.J. 2005. *Vertebrate Palaeontology*. Blackwell Publishing. Electronic version.

Benton, M.J and Harper, D.A.T. 2010. *Introduction to Paleobiology and the Fossil Record*. Wiley-Blackwell. Electronic version.

Clarkson, E.N.K., 1998. *Invertebrate Palaeontology and Evolution*. Blackwell Science. Electronic version.

Cowe, R. 1994. *History of life*. Blackwell Scientific Publications.

Darwin, C. 1979. *The illustrated Origin of species*. Introduced by Richard E. Leakey. Hill and Wang.

Jones, R.W. 2006. *Applied palaeontology*. Cambridge : Cambridge University Press,

Raymond, E. 1993. *Palaeontology of invertebrate*. Berlin : Springer-Verlag, 1993

*International Chronostratigraphic Chart*

[http://www.stratigraphy.org/column.php?idChart/Time Scale](http://www.stratigraphy.org/column.php?idChart/Time%20Scale)

Tree of life web project: <http://tolweb.org/tree/>

<http://news.discovery.com/paleontology/>

<http://www.ucmp.berkeley.edu/help/timeform.php>

[http://serc.carleton.edu/research\\_education/geochemsheets/index.html](http://serc.carleton.edu/research_education/geochemsheets/index.html)

Additional Reading Material:

None

*Course/Module evaluation:*

End of year written/oral examination 85 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 15 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information:

(written examination, presentation, participation in tutorials, project work, assignments, report, research project, quizzes, others)

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*Written examination - 85%*

*Participation in tutorials and home assignments are obligatory in order to take the exam (15%).*

*Additional information:*

*Two classes take place at the Paleontological Collections of the National Natural History Collections of the Hebrew University, Jerusalem at Berman building at Edmond J. Safra campus, Givat Ram.*