האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

INTRODUCTION TO GEOLOGY - 70135

Last update 23-09-2015

HU Credits: 4

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: geology

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus E. Safra

Course/Module Coordinator: Oded Navon

Coordinator Email: oded.navon@huji.ac.il

Coordinator Office Hours: Tuesday, 2-2:30 pm

Teaching Staff:

Prof Oded Navon
Mr. Oded Elazar
Ms. Netta Shalev

Course/Module description:

The course consists of four main parts: 1. Plate tectonics: evidence collected and the evolution of the theory, plates and phenomena at plate boundaries, the current understanding of the mechanism of plate tectonics. 2. Geologic time: Stratigraphy, correlation of cross-sections, relative time, measurement of absolute time using radiogenic isotopes, the geological time scale. 3. Climates of the past: paleogeography and paleoclimate, the Cretaceous world, the ice ages, climate changes. 4. Paleontology: fossils, evolution, early life on Earth.
Training class: identification of minerals, rocks and fossils, introduction to geological maps and cross-sections, earthquakes, isostasy and more.

Course/Module aims:

Understanding fundamental concepts in geology, understanding plate tectonics as a unifying theory. The role of geology in climate change and landscape evolution. Basic understanding in reading geological maps and cross-sections and identification of minerals, rocks, fossils, folds and faults.

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

At the end of this course students will be able to discuss geological phenomena in the field, to distinguish between various tectonic environments and understand their expression in various places around the world.

Attendance requirements(%):

The two excursions + 70% of the exercises and quizes.

Teaching arrangement and method of instruction: Each week there will be a two hour lecture, a reading assignments, a one hour training session, a home assignment and a quiz (at the end of the lecture). There will be two one day excursions and a final exam.

Course/Module Content:

Introduction
Minerals and rocks
Stratigraphy

Evolution and extinctions
Geological time
Stress and strain
Seismology
Plate tectonics
Climates of the past
Geology of Israel

Required Reading:
Understanding Earth, 5th EDITION by Grotzinger, Jordan, Press and Siever
or
Understanding Earth 6th EDITION by Grotzinger and Jordan.
Earlier editions are also possible.

Additional Reading Material:
The book:
צפונות כדור הארץ
by Shlomo Shoval is organize in a different way, but covers most of the material. Any other Intro to Geology text book may help as well.

Course/Module evaluation:
End of year written/oral examination 75 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 13 %
Reports 2 %
Research project 0 %
Quizzes 10 %
Other 0 %

Additional information:
It is not possible to get the final grade without participating in both excursions.