האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Fundamentals of Fluid Mechanics for Earth Science Applications - 82856

Last update 16-08-2017

HU Credits: *2*

Degree/Cycle: *1st degree (Bachelor)*

Responsible Department: *atmospheric sciences*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *Hebrew*

Campus: *E. Safra*

Course/Module Coordinator: *Dr. Ori Adam*
Prof Einat Aharonov

Coordinator Email: *ori.adam@mail.huji.ac.il*

Coordinator Office Hours:

Teaching Staff:
Dr. Uri Adam
Prof Einat Aharonov

Course/Module description:
Fundamentals of Fluid Mechanics with application for earth sciences.

Course/Module aims:

Learning outcomes - On successful completion of this module, students should be able to:
Familiarity with Navier Stokes equation, its derivatives and applications.

Attendance requirements(%):
80

Teaching arrangement and method of instruction: Frontal lectures and demonstrations

Course/Module Content:
Hydrostatics
Pressure
Stress
Viscosity
Surface tension
Capillary forces
Diffusion
Deriving navier stokes
Stokes equation
Poiselle flow
Couette flow
Terminal velocity of a particle in a fluid
Non- dimensional analysis (pi theory)
Transition to turbulence

Required Reading:

Fundamentals of fluid mechanics, 6th edition

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 50 %
Presentation 30 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 20 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: