



Syllabus

INTRODUCTION TO ENVIRONMENTAL SCIENCES - 89309

Last update 08-08-2023

HU Credits: 3

Responsible Department: Environmental Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Hagit Affek

Coordinator Email: hagit.affekl@mail.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Prof Affek Hagit,
Dr. Assaf Hochman

Course/Module description:

The course presents the most pressing environmental issues and the scientific methodology used to study environmental issues. The environmental issues to be presented and discussed are: demography, energy and the environment, bio-geochemical cycles, air, soil, and water pollution, soil erosion and degradation, waste and toxic waste, climate change, ecosystems and their functioning, bio-diversity and extinctions.

Course/Module aims:

To present the most pressing environmental issues and the scientific methodology used to study environmental issues

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

To list and explain the most important environmental problems globally
To read and understand articles from the scientific of popular science literature

Attendance requirements(%):

75% of exercises (discussion classes)

Teaching arrangement and method of instruction: lecture and discussion sessions

Course/Module Content:

Survey of major environmental issues and the scientific methodology
Demography and providing food to humanity
Energy sources: fossil fuels and alternative energy sources
Bio-geochemical cycles and human effects
Climate and the atmosphere □ greenhouse gases and atmospheric pollution processes
Water □ quantities, pollution and algal blooms
Soils, open areas, agriculture, forestation, and deforestation
Oceans □ overfishing, pollution, acidification, and coral bleaching
Ecology and biodiversity
Urban environment and solid waste management
Ethics of environmental quality and nature preservation

Required Reading:

1. Botkin D. B., Keller E. A., Environmental Science: Earth as a Living Planet, 5th/6th/7th/8th Edition (B&K), John Wiley & Sons, 2003/2005/2007/2008/2011

2. Weekly articles for discussion classes

book report (only one):

Collapse: How Societies Choose to Fail or Succeed, J. M. Diamond, Viking Press (2005)

Silent Spring, R. L. Carson, Houghton-Mifflin Press (1962)

Additional Reading Material:

articles and movies that will be uploaded to the course site

Grading Scheme:

Essay / Project / Final Assignment / Home Exam / Referat 65 %

Active Participation / Team Assignment 5 %

Other 30 %

Additional information:

The discussion classes (exercises) are meant to broaden and deepen the understanding of the topic discussed in the lecture. The students are expected to read the articles before class, and submit 3-5 discussion points, so that they are ready to participate in class discussion.