



The Hebrew University of Jerusalem

Syllabus

How many people can Earth support? - 40352

Last update 22-08-2025

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Geoinformatics and Spatial Science

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Dr. Amit Tubi

Coordinator Email: amit.tubi@mail.huji.ac.il

Coordinator Office Hours: Tuesday 12:00-13:00 room 26412

Teaching Staff:

Dr. Amit Tubi

Course/Module description:

The Earth's population is larger than ever and continues to grow, while the Earth's natural systems are experiencing unprecedented pressures. In light of these processes, the course focuses on a critical question: How many people can the Earth sustain? This question is examined from the perspective of human-environment relations, exploring the mutual impact between human systems and natural systems on global, regional, and local scales over time.

Course/Module aims:

The course comprises three modules:

1. World geography: human-environment interactions since the last ice age, including environmental effects on humans and vice versa
2. Environmental carrying capacity: population, food, water and energy, including questions about health the environment
3. Biogeography: the consequences of development on the environment

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

Describe and evaluate the outlines of human-environment relations from a global perspective.

Critically assess the concept of carrying capacity.

Examine the interactions between population, food, water, and energy.

Identify the interactions between the global level and globalization processes with the regional and local levels.

Attendance requirements(%):

80

Teaching arrangement and method of instruction: Frontal lectures

Course/Module Content:

1. Introduction: Environment and Society
2. Environmental Impacts on Humans: A Historical Perspective on Human Development
3. Human Impacts on the Environment: A Historical and Spatial Perspective

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4. *Collapse? The Impact of Humans on the Environment and Back Again*
 5. *Population*
 6. *Food*
 7. *Water*
 8. *Energy*
 9. *Ecosystem Services: Open Spaces and Biodiversity*
 10. *Scale of Environmental Issues 1: Urbanization Processes and Basic Concepts in the Human Footprint*
 11. *Scale of Environmental Issues 2: Calculating the Human Footprint and Transboundary Environmental Issues*
 12. *Thule-Tuvalu: A Contemporary Look at the Consequences of Climate Change (Film in English and Discussion)*

Required Reading:

דיימונד ג'ארד (תשס"ג) רובים, חיידקים ופלדה : גורלותיהן של חברות אדם, הוצאת עם-עובד (פרקים 4-5).

McCauley D.J. et al., 2015, *Marine defaunation: Animal loss in the global ocean*, *Science* 347 (6219), 247-254.

Cohen J. (1995) *How Many People can the Earth Support?*, Norton (ch. 12).

Falkenmark M. and Lannerstad M. (2010) *Food security in water-short countries – coping with carrying Capacity overshoot*, in: L. Martinez-Cortina, A Garrido and E. Lopez-Gunn (eds) *Re-thinking Water and Food Security*, CRC Press.

ספריאל אוריאל (2014) המדבור – בעיה מקומית וסיכונים עולמיים, אקולוגיה וסביבה 5(2), עמ' 152-160.

Ferguson A. (2002) *The assumptions underlying eco-footprinting*, *Population and Environment* 23, 303-313.

Additional Reading Material:

Grading Scheme:

Essay / Project / Final Assignment / Home Exam / Referat 100 %

Additional information: