



Course name: Topics in Environment, Sustainability and Conservation

Course number: 220.1.0001 (2.0 credits)

Instructors:

Prof. Yaron Ziv – Head Instructor (Faculty of Natural Sciences)

Dr. Shirli Bar-David (Institutes of Desert Research)

Prof. David Katoshevski (Faculty of Engineering Sciences)

Prof. Amit Gross (Institutes of Desert Research)

Prof. Isaac A. Meir (Institutes of Desert Research)

Prof. Meidad Kissinger (Faculty of Humanities and Social Sciences)

Head Instructor's details:

Email: yziv@bgu.ac.il

Office hours: Upon demand

Course description:

In this multi-disciplinary course, we will discuss some major challenges of environmental protection, by addressing the biological, physical and human themes of conservation.

In the Biological theme, we focus on the importance of biodiversity and actions we can take to conserve populations and communities. We review the threats to biodiversity and extinction rates and describe efforts to reintroduce endangered species as an important component of conservation activities. We then explain the benefits that healthy ecosystems provide for human beings and show that increasing biodiversity conservation within agroecological landscapes can significantly contribute to our conservation efforts.

In the Physical theme, we focus on air and water as elements that are negatively affected by humans and, in turn, cause critical problems to our health and threaten our future daily lives. We describe the composition and dynamics of the airborne particles that impact the greenhouse effect and also harm our health. We discuss the role of water as an essential building block for life and focus on methods of water treatment and reuse, such as gray water, to improve our future use of water.

In the human theme, we focus on the built-up environment and the consequences of our life in un-friendly buildings. We show how the green-building concepts and solutions can save energy and materials, as well as improve our well-being and reduce health problems. We demonstrate how particular activities can reduce our carbon use and ecological footprint. We give an overview of the emerging field of sustainability, which strives to connect different disciplines and offers ways to reduce energy and material waste, improve our well-being, and minimize our negative environmental impact on the next generations.

Following the registration through the regular BGU's course system, instructions will be provided to sign-up for the external massive open on-line course (MOOC): ***Environmental Protection and Sustainability***, under the prestigious platform edX. Each of the 8 study units of the course is composed of video movies, reading(s), exercise(s) and discussions. At the end of each unit a final quiz exists. The course is given in English. The video movies are accompanied with subtitles in English, Hebrew and Arabic.

Course goals:

- Understanding major environmental issues
- Exposure to different disciplines that deal with environmental problems
- Getting familiar with several systems that represent environmental challenges and ways to solve them
- Getting familiar with several faculty members at BGU who studies diverse environmental issues

Study units:

1. Biodiversity and Ecological Determinants (Prof. Yaron Ziv)
2. Conservation Biology and Species Reintroduction (Dr. Shirli Bar-David)
3. Open Lands and Agroecology (Prof. Yaron Ziv)
4. Air Quality and Pollution (Prof. David Katoshevski)
5. Water Quality and Greywater Reuse (Prof. Amit Gross)
6. Green Sustainable Building (Prof. Isaac A. Meir)
7. Urban Sustainability (Prof. Meidad Kissinger)
8. World Sustainability (Prof. Meidad Kissinger)

Reading: According to requirements of the different study units

Requirements and point distribution:

1. Students must sign-up for the relevant, on-going, internet MOOC, with BGU's email (only) and with the specific code provided at the beginning of the semester.
2. Each student must pass each of the study units' quiz with a grade of 80% and above.
3. Course final grade is composed of:
 - A. 20% - Passing all the 8 quizzes (see 2) within the specified course timeframe.
 - B. 80% - Final exam at BGU's classrooms during the exam period. The exam is given in English.
4. Students who do not sign-up for the internet MOOC with BGU's email, do not sign-up for the correct relevant internet MOOC, do not follow the course's timeframe, and/or do not use the specific code, will receive a grade: 'Fail'.
5. All the announcements sent during the semester must be followed and are mandatory.