האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

RANGELAND SCIENCE - 71083

Last update 15-10-2024

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Plant Science in Agriculture

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Iris Schoenbaum

Coordinator Email: iris.schoenbaum@mail.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Dr. Zalman Henkin,
Dr. Iris Schoenbaum

Course/Module description:

Grazing systems – which combine domestic animals, natural vegetation and people – produce products and provide a livelihood for individuals and companies. Such systems require the integration of agricultural production goals and conservation of complex ecosystems. The course provides an overview of the different types of rangeland in Israel and abroad, and discusses the environmental conditions that determine their characteristics, function and value as animal forage. The course analyzes management issues related to rearing productive domestic animals on rangeland, from historical, ecological, economic, and social perspectives. Field trips to the south and the north will provide opportunities to gain familiarity with different rangeland systems of Israel and meet people involved with them. We will hear about problems and solutions related to efficient utilization of the systems, about the preservation of their productive capacity and ecological quality, about their social and statutory status, and about their economic functioning.

Course/Module aims:

The objectives of the course are:
To gain an understanding of the complexity of grazing systems, both from biological (animal–vegetation) and management points of view;
To understand how grazing can be employed as a tool to manage extensive areas;
To learn ways of improving rangeland and animal productivity.

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

Gain an understanding of the complexity of grazing systems, both from biological (animal–vegetation) and management points of view;
Describe how grazing can be employed as a tool to manage extensive areas;
Know ways of improving rangeland and animal productivity.

Attendance requirements(%):

80

Teaching arrangement and method of instruction: frontal classes, field trips, paper analysis, exercise

Course/Module Content:

The main topics of the course are:

- *Grazing systems in the world and in Israel*
- *Pasture plants, pasture quality estimates, carrying capacity*
- *Secondary production, livestock grazing*
- *Field trip to the south: Latrun, Britannia Park, Beit Nir, Lachish*
- *Field trip to the north: Karei Deshe, Ein Kamonim, Hatal, Ramat Hanadiv*
- *Dynamics and stability of grazing systems*
- *The dynamic model and simulation exercise*
- *Nutrition, feed monitoring and supplementary feeding of grazing animals*
- *Rangeland soils, fertility and fertilization*
- *Grazing as a management tool; range research and research stations in Israel*
- *Grazing behavior*
- *Ecosystems; succession; states and transitions; systems in equilibrium and balance*
- *Grazing management; economics of grazing systems*

Required Reading:

none

Additional Reading Material:

Noam Zeligman 2006

Grading Scheme:

Presentation / Poster Presentation / Lecture/ Seminar / Pro-seminar / Research proposal 40 %

Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 10 %

Mid-terms exams 45 %

Attendance / Participation in Field Excursion 5 %

Additional information:

The tours will be on Friday