האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

BIOLOGICAL PEST CONTROL - 71939

Last update 14-03-2025

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Agroecology & Plant Health

Academic year: 0

Semester: 2nd Semester

Teaching Languages: English

Campus: Rehovot

Course/Module Coordinator: Prof Moshe Coll

Coordinator Email: moshe.coll@mail.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Prof. Moshe Coll

Course/Module description:

Biology, ecology and behavior of predators and parasitoids of agricultural pests, their role in pest population suppression, and use in importation, augmentation, and conservation biological control programs.

Course/Module aims:

To teach the basic principles and practices of pest biological control, and the behavioral and ecological processes that influence success of biocontrol.

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

Contrast various biological control approaches; assess the ecological, methodological and socioeconomic reasons for successes and failures of biological control efforts; Deliver a short lesson on a new, self-taught topic.

Attendance requirements(%):

100% except during add-drop period

Teaching arrangement and method of instruction: lecture

Course/Module Content:

1- Introduction: history of and approaches in biological control
2- Use of insects in weed control; Natural enemies and their life cycles
3- Natural enemies and their life cycles (Con't)
4- Biological control in practice
5- Biological control in Integrated Pest Management programs
6- Biological control programs in Israel and abroad
7- Population dynamics of predator-prey systems
8- Biology, behavior and ecology of predators and parasitoids
9- Biology, behavior and ecology of predators and parasitoids (con't)
10- Mid-term exam; Risks in biological control
11- Case studies in biological control -- student lectures
12- Agro-technical challenges in biological control -- student lectures
13- Ecological issues in biological control -- student lectures
14- Socioeconomic topics in biological control -- student lectures

Required Reading:
Between 6 to 12 book chapters and review papers towerd Mini-lecture presentations

Additional Reading Material:
selected chapters from:
Bellows TS and Fisher TW. (eds.) 1999. Handbook of Biological Control. Academic Press. 1046 pp.
OR
Van Driesche RG and Bellows TS Jr 1996 Biological Control. Chapman and Hall. 539 pp.
OR
Heimpel GE and Mills NJ. 2017. Biological Control: Ecology and Applications. Cambridge and New York: Cambridge University Press.

Grading Scheme:
Essay / Project / Final Assignment / Home Exam / Referat 30 %
Presentation / Poster Presentation / Lecture/ Seminar / Pro-seminar / Research proposal 50 %
Active Participation / Team Assignment 20 %

Additional information: