האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

THE GENETICS OF CROP PHYSIOLOGIAL ADAPTATION - 73532

Last update 21-09-2022

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Field and Vegetable Crops

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Shahal Abbo

Coordinator Email: shahal.abbo@mail.huji.ac.il

Coordinator Office Hours: By asppointment

Teaching Staff:
Prof Shahal Abbo

Course/Module description:
The course outlines the basic concept of 'Adaptation' in grain crop plants. The discussion of the concept and its significance is done via the comparison between wild and domesticated plants and via a detailed discussion of plant domestication in the Near East.
The relevance of these topics to modern plant breeding and for field adaptation is discussed.

Course/Module aims:
Course aims:
Understanding of the basic genetic components of physiological adaptation in annual grain crops. Understanding of the evolutionary basis of the different adaptation patterns among grain crops from different world regions and their wild progenitors. Understanding the adaptive consequences of the ancient domestication episodes of crop plants, and the evolution of new adaptive features under domestication.

Learning outcomes - On successful completion of this module, students should be able to:
The consequences of learning:
Ability to employ evolutionary considerations in order to understand the adaptive profile of grain crops (and hence their yield limitations). Ability to combine evolutionary history considerations in conjunction with genetic data in plant breeding programs.

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Lectures, reading assignments, paper writing.

Course/Module Content:
Synopsis of topics:
Screening of the concept of 'Adaptation' in crop plants. Introduction to crop

evolution under domestication via the perspective of the Near Eastern crops. Discussion of the consequences of plant domestication and the evolution under domestication to the adaptation profile of selected crop cases (wheat, lentil. chickpea, sorghum). Discussion of the implications of the genetic bases of physiological adaptation to modern plant breeding. Presentation of test cases by students.

Required Reading:
None

Additional Reading Material:
None

Grading Scheme:

Additional information:
Lecture recordings will be made available shortly after each meeting.