The Hebrew University of Jerusalem

Syllabus

DEVELOPMENTAL BIOLOGY OF GRAPEVINES - 71111

Last update 04-08-2023

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Horticulture

Academic year: 0

Semester: 2nd Semester

Teaching Languages: English

Campus: Rehovot

Course/Module Coordinator: Dr. Gil Nir

Coordinator Email: gilnir24@gmail.com

Coordinator Office Hours: appointment via e- mail

Teaching Staff:

Dr. Gil Nir

Course/Module description:
Creating connections between current knowledge regarding grapevine development and practical practices in the commercial vineyard

Course/Module aims:
Acquiring Knowledge and understanding of grapevine developmental processes and its implementation in the horticultural practice

Learning outcomes - On successful completion of this module, students should be able to:
To understand the effects of horticultural manipulation on the overall performance of the vine and the potential value of vine development manipulation on practical parameters of the industry

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Lectures and field trips

Course/Module Content:
The grapevine industry in Israel and in the world.
Systematics and morphology of the grapevine. The developmental stages along the annual cycle.
Winter dormancy and factors affecting it. Metabolic and molecular changes related to dormancy.
Reproductive differentiation, fertility and flowering.
Field trip: grapevine morphology. characteristics of wine and table grape vineyards.
Vegetative development and changes in sink-source relationships throughout the growth cycle.
Fruit development and factors affecting it.
Growth regulators in grapevines: effects and uses.
Water relations of the grapevine.
Viticultural practices affecting development, yield and quality.
Training, trellising systems and canopy management according to the vigor and the end product.
The important pests and diseases of grapevine in Israel: their relation to the grape biology and advanced practices of their control.
Principles of table and wine grapes breeding. Propagation and nursery methods.

Cocncluding field trip: Visit winery, nursery, open air and greenhouse table grape vineyards and wine grape vineyard.

Required Reading:
None

Additional Reading Material:
References from presentations.
Winkler, A. J. (1974). General Viticulture. UC Press. pp 710.
Smart, R. & Robinson, M (1991) Sunlight into wine. Winetitles. pp 88.
Reading list of the library (through moodle).

Grading Scheme:
Written / Oral / Practical Exam 90 %
Attendance / Participation in Field Excursion 10 %

Additional information:
The lectures will be recorded and will be available to the students about 2 weeks before the exam.