האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

MOLECULAR ASPECTS OF PLANT DEFENSE - 71139

Last update 16-09-2015

HU Credits: *4*

Degree/Cycle: *2nd degree (Master)*

Responsible Department: *Agroecology & Plant Health*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *English*

Campus: *Rehovot*

Course/Module Coordinator: *Maggie Levy*

Coordinator Email: *levym@agri.huji.ac.il*

Coordinator Office Hours: *By appointment*

Teaching Staff:

Dr. Maggie Levy

Course/Module description:

This course focuses on the molecular aspects in plant defense responses towards pathogens, insects and abiotic stresses.

Course/Module aims:

To study the molecular mechanisms of plant defense responses

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

define, describe, examine, find, identify, present, recognize, state, tabulate, tell, follow, Analyze, appraise, compare, connect, criticize, debate, distinguish, examine, experiment, identify, inspect, investigate, point out, question, explain, generalize, propose, summarize, demonstrate,
Assess, compare, conclude, recommend, manage,

Attendance requirements(%):

35

Teaching arrangement and method of instruction: lecture seminar

Course/Module Content:

This course focuses on the molecular aspects in plant defense responses towards pathogens, insects and abiotic stresses. Special emphasis will be put on the genetic control of the biochemical defense involving reactive oxygen species (ROS) and Nitric oxide (NO) accumulation and the signal transaction involved in hypersensitive response (HR) and programmed cell death (PCD). We will discuss genes involved in plant resistance mechanisms including; basal local defense, induced defense, systemic acquired resistance (SAR), induced systemic resistance (ISR) and priming pathways. We will study the genetic control and signal transduction of hormone involved in defense responses pathways such as salicylic acid (SA), jasmonic acid (JA) and Ethylene.

Required Reading:

recent publications

Additional Reading Material:

1. Agrios, Plant Pathology, 2004 (Fifth edition), Chapters: 3, 5, 6, 12, 14 and 15.

2. Schumann GL and D'arcy CJ, 2006. Essential Plant Pathology, Chapters:3, 5, 9.

3. Goodman RN, Kiraly Z and Wood KR, 1986. The Biochemistry and Physiology of Plant Disease.

Course/Module evaluation:

End of year written/oral examination 70 %
Presentation 30 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

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