

# *The Hebrew University of Jerusalem*

## *Syllabus*

### **BIOLOGY OF THE PLANT CELL - 71346**

*Last update 20-09-2016*

*HU Credits:* 2

*Degree/Cycle:* 1st degree (Bachelor)

*Responsible Department:* Plant Science in Agriculture

*Academic year:* 0

*Semester:* 1st Semester

*Teaching Languages:* Hebrew

*Campus:* Rehovot

*Course/Module Coordinator:* Leor Eshed Williams

*Coordinator Email:* [leor.williams@mail.uji.ac.il](mailto:leor.williams@mail.uji.ac.il)

*Coordinator Office Hours:* Sunday 11.00-12.00

*Teaching Staff:*

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Dr. Leor Eshed Williams  
Dr. Einat Sadot

Course/Module description:

The course will discuss the structure and function of the plant cell its organelles, cellular membrane and function, cell wall synthesis composition and role, the role of the cytoskeleton - the endoplasmic system , the ER and Golgi and vasicule movement

Course/Module aims:

Understand the uniqueness of the plant cell, the function and structure, its unique organelles, and processes that occur.

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

Show the uniqueness of the plant cell, the unique its organelles, their structure and function.

Describe intracellular transport processes, the process of plant cell division and control mechanisms.

Demonstrate knowledge of research methods in cell biology and microscopy

Attendance requirements(%):

None

Teaching arrangement and method of instruction: Two frontal lectures

Course/Module Content:

1. Molecular markers and microscopes
2. Secretory pathway
3. Endocytosis and membarne curvature
4. Mitochondria, peroxisomes, vacuoles , autophagy
5. Plastids
6. The actin cytoskeleton
7. The microtubule cytoskeleton
8. The cell wall
9. Plasmodesmata
10. Post translation modifications (phosphorylation, palmitoylation, ubiquitination etc)
11. Defuse vs tip growth of plant cells
12. Cell polarity

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### 13. Cell biology and agriculture

#### Required Reading:

None

#### Additional Reading Material:

None

#### Course/Module evaluation:

End of year written/oral examination 100 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 0 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

#### Additional information:

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