האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

BIOLOGY OF THE PLANT CELL - 71346

Last update 10-09-2024

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: Dr. Doron Shkolnik

Coordinator Email: doron.shkolnik@mail.huji.ac.il

Coordinator Office Hours: Coordinated upon need

Teaching Staff:

Dr. Doron Shkolnik

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 endoplastic 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
13. Cell biology and agriculture

Required Reading:
None

Additional Reading Material:
None

Grading Scheme:
Written / Oral / Practical Exam 100 %

Additional information:
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