



The Hebrew University of Jerusalem

Syllabus

The Cytoskeleton: Structure Signaling and Function - 86914

Last update 25-01-2024

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Cellular & Developmental Biology

Academic year: 0

Semester: 2nd Semester

Teaching Languages: English

Campus: E. Safra

Course/Module Coordinator: Prof Amnon Buxboim

Coordinator Email: Amnon.Buxboim@mail.huji.ac.il

Coordinator Office Hours: Wednesday at 17:00

Teaching Staff:

Prof Amnon Buxboim

Course/Module description:

Presentation of the three cytoskeletal families: Actin, Microtubules, Intermediate filaments. We will discuss the dynamic regulation of filament assembly. Emphasis will be dedicated to how the cytoskeleton participates in signaling and specifies function in health and disease.

Course/Module aims:

Providing the foundation for understanding the biological roles of the cytoskeleton.

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

Understand the potential roles that the cytoskeleton may serve in the various biological systems of interest that the students will encounter.

Attendance requirements(%):

85

Teaching arrangement and method of instruction: lecture + exercise

Course/Module Content:

Introduction to the actin, microtubule and intermediate cytoskeleton.

Structure-function relationships.

Regulation of cytoskeletal assembly.

The cytoskeleton in signal transduction.

Nuclear lamins and disease.

Required Reading:

Molecular biology of the cell / GS.

Molecular Cell Biology / Macmillan.

The Cytoskeleton. Edited by Thomas D. Pollard and Robert D. Goldman / CSH.

Selected articles

Additional Reading Material:

Grading Scheme:

Written / Oral / Practical Exam 85 %

Essay / Project / Final Assignment / Home Exam / Referat 15 %

Additional information: