



The Hebrew University of Jerusalem

Syllabus

Mitochondria: Molecular Metabolic and Medical Perspectives - 94864

Last update 19-04-2020

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Bio-Medical Sciences

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Ein Karem

*Course/Module Coordinator: Prof. Haya Lorberboum-Galski
Prof. Ophry Pines*

Coordinator Email: hayag@ekmd.huji.ac.il

Coordinator Office Hours:

Teaching Staff:

Prof Haya Loberboum-Galski,
Prof Ann Saada Reisch,
Prof Ronit Sharon,
Prof Ehud Cohen,
Prof Ophry Pines

Course/Module description:

Mitochondria play a major and critical role in cellular homeostasis – they participate in intracellular signaling, apoptosis and perform numerous biochemical tasks, such as pyruvate oxidation, the Krebs cycle, and metabolism of amino acids, fatty acids, nucleotides, steroids and more. Dys-regulated mitochondria are involved in numerous diseases/disorders. This course is dealing with the molecular, biochemical and medical aspects of the mitochondria

Course/Module aims:

To deal with an multidisciplinary
research field with the mitochondria as its main focus.

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

Having the ability to read and understand, via a criticism approach, scientific papers in the best international journals.
Having the ability to design experiments to approach complex scientific questions.

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Lectures of Teachers and students presentations on the last weeks of the course.

Course/Module Content:

Structure, biogenesis and dynamics of the mitochondria
Apoptosis and mitochondria
Mitochondria and aging
Mitochondria and neuro-degeneration
Mitochondrial diseases
Mitochondria and cancer

Required Reading:

Papers on selected course topics from the top international scientific journals

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 0 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 76 %

Assignments 0 %

Reports 0 %

Research project 0 %

Quizzes 24 %

Other 0 %

Additional information: