האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Basic electromagnetic and wave theory for Med. students - 77142

Last update 14-08-2023

HU Credits: *3.5*

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

Responsible Department: *Physics*

Academic year: *0*

Semester: *1st Semester*

Teaching Languages: *Hebrew*

Campus: *Ein Karem E. Safra*

Course/Module Coordinator: *Prof Yinon Ashkenazy*

Coordinator Email: *yinona@huji.ac.il*

Coordinator Office Hours: *by appointment*

Teaching Staff:
Prof Yinon Ashkenazy,
Mr. Joseph Bach,
Mr. Oshri Fatkiev,
Mr. Dvir Chwat

Course/Module description:
Study of basic concepts of electromagnetic theory and wave theory

Course/Module aims:
To understand basic physical concepts behind processes and instruments associated with medicine, such as transmission of nerve impulses, blood circulation, and other processes involving charge transfer and sound waves.

Learning outcomes - On successful completion of this module, students should be able to:
Solve some simple electrostatic and electrical network problems.
Understand mechanisms behind processes involving electric charge transfer and sound wave transmission.

Attendance requirements(%):
80%

Teaching arrangement and method of instruction: Lecture+ exercise

Course/Module Content:
electrical charge, electrical field, electrical energy and potential. Inductance. Capacitors, simple electrical circuits and resistors. currents and Ohms law. forces on moving charges, magnetic fields sources. Pending on time - a short review of wave propagation and velocity.

Required Reading:
None

Additional Reading Material:
none

Grading Scheme:

Written / Oral / Practical Exam 100 %

Additional information:

none