האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

PHYSICS LABORATORY FOR ENGINEERING - 83315

Last update 06-03-2017

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: computer engineering-specializ. in appl. physics

Academic year: 2018

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Dr. Vladislav Lirtsman

Coordinator Email: vlad.lirtsman@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Mr.
Mr. Guterman Shay
Ms. Noa Betzalel
Ms. Tovit Freidman
Mr. Daniel Doktofsky
Ms. Merav Kahn
Ms. Sudri Emuna
Mr.
Ms. Fridman Chana
Mr. Pavel Komm
Mr. Jeremy Boger-Lomba
Mr. Amit Kessel
Mr. Rechtman Lior
Ms. Goren Naama

Course/Module description:

The teaching laboratory is divided into 6 experiments, grouped into 3 modules:

1. Waves
a.Interferometry
b.Ripple bath
c.Young's slit experiment
2. Atomic Physics
a.Frank - Hertz experiment.
b.The photoelectric effect.
3.Linear Response and the Frequency Domain
a.Linear response in RCL circuits

Course/Module aims:

The aim of the Laboratory is to give Electrical Engineering students an introduction to experimental physics,including the practicalities of experimental work and error analysis.
The course also tries to illuminate some of the theory the student learns in his basic introduction course for waves and circuit theory by practical experiments

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

Understand the concept of Errors in experimental work.
Use basic error analysis.
Understand basic data representation and graphing techniques.

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Lab work is carried out in pairs under the auspices of a teaching assistant.
Each experiment must include a Lab report.
The course is culminated by a student presentation on one of their experimental studies.

Course/Module Content:
The experiments are:
a.Interferometry
b.Ripple bath
c.Young's slit experiment
d.Frank - Hertz experiment.
e.The photoelectric effect.
f.Linear response in RCL circuits

Required Reading:
Introduction to waves
Introduction to basic circuit theory.

Additional Reading Material:
NA

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 15 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 85 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
Student participating in course 83315 are obligated to pass the test in the safety course.