



University of Nicosia, Cyprus

Course Code PHYS-TBD	Course Title Introductory Physics II	ECTS Credits 6
Department Physics	Term Summer	Prerequisites None
Type of Course	Field Science	Language of Instruction English
Level of Course	Year of Study	Lecturer(s)
Mode of Delivery Face-to-Face	Work Placement None	Co-requisites

Aims:

The principal aim of this course is to provide students with a firm understanding of the basic concepts of physics and the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis.

Objectives of the Course:

By the end of this course it is to be expected that the students will have acquired an understanding of the following concepts and principles:

- The concepts of electric fields and electric potentials
- Electric currents, conductors and insulators
- The concept of magnetic fields
- Electromagnetic waves
- The refraction of light
- Geometric optics
- Optical instruments
- The interference of light and other electromagnetic waves
- Wave/particle duality
- Early quantum mechanics
- Atomic physics
- Nuclear structure

- Radioactivity

Reading List:

Physics for Scientists and Engineers by R.A. Serway & J. W. Jewett (publisher: Brooks/Cole). Most of the assigned problems in the course will be taken from this (calculus based) book.

Additionally the following books will be used:

Fundamentals of Physics by Halliday, Resnick & Walker (publisher: Wiley)

University Physics by H.D. Young & R.A. Freedman (publisher: Pearson)

Teaching Methods:**(a) Lectures**

There are eight lectures per week scheduled for one hour.

(b) Homework/ Problem Solving

One set of problems will be handed out each week, which must be submitted for grading.

(c) Workshops

There are two 2-hour workshops each week devoted to problem solving; these will be group-based, with each group comprising three students, graded as a group.

(d) Laboratory

There are two 3-hour laboratory afternoons each week in which a new experiment is performed each afternoon. Here the students will work in pairs and will be graded in pairs.

Independent Study

It is estimated that each module will require a minimum of 80 hours independent study.

Assessment Methods:

The course will be assessed by means of a mid-session quiz and final examination, as well as the laboratory and the problem sets.

	Weighting
Problem Sets/Tutorials	15%
Mid-Session Quiz	10%
Final Examination	50%
Laboratory	25%