University of Nicosia, Cyprus

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

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:

- Velocity and acceleration of an object
- Newton's laws
- The gravitational force and the weight of an object
- Work, potential energy and kinetic energy
- Torque and rotational motion
- Linear momentum and angular momentum
- Pressure in a fluid and viscous flow
- Elastic deformation and oscillatory motion
- Wave motion
- Transmission of sound
- The properties of an ideal gas
- The nature of heat
- Thermodynamics

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%