

Global Learning Semesters

Course Syllabus

Course: PHY-150 General Physics I

Department: Engineering

Host Institution: University of Nicosia, Nicosia, Cyprus



Course Summary		
Course Code	Course Title	Recommended Credit Hours
PHY-150	General Physics I	3
Semester Offered	Contact Hours	Prerequisites
Fall, Spring, Summer	70	MATH-190 Calculus & Analytic Geometry I. Fundamentals of differential and integral calculus
Department	Level of Course	Language of Instruction
Engineering	Lower Division	English

Course Description

Introduction to the basic physical quantities and their units of measurements. Vectors: addition subtraction, dot product, and cross product. Motion along a straight line; displacement, velocity, acceleration, free fall. Motion in 2D and 3D: projectile motion, circular motion and relative motion. Force and motion : Newton's Laws, frictional force, drag force. Work, kinetic energy, work kinetic energy theorem, potential energy, conservation of mechanical energy, power. Systems of particles. Center of mass, conservation of linear momentum. Collisions, impulse, collisions in one dimension (elastic and inelastic), collisions in two dimensions. Rotational motion. Torque, angular momentum. Equilibrium and elasticity.

Instructor

Dr Marios Nestoros

Course Aims and Objectives

To introduce students to the basic concepts and principles of Physics in the area of classical mechanics and familiarize them with experimenting.

Teaching Methods

The course is delivered through a mixture of lectures, lab presentations, lab tutorials and practical exercises and assignments.

Course Teaching Hours

70 hours (56 hours lectures/presentations + 14 hours laboratory work and demonstrations). The course is delivered during the Fall and Spring semesters in 14 weeks (5 hours/week). During the Summer session the course is delivered in 7 weeks (10 hours/week).

Evaluation and Grading

Homework/Participation:	10%
Test 1:	20%
Test 2:	20%
Final Exam:	40%
Labs:	10%

Readings and Resources

Required Textbook

D. Halliday, R. Resnick and J. Walker, Fundamentals of Physics, Seventh Edition, Wiley, 2001

Recommended Reading

Wolfson R., Pasachoff J., Physics with Modern Physics for Scientists and Engineers, Second Edition, Harber Collins, 1995