Global Learning Semesters
Course Syllabus
Course: PHY-270 General Physics III
Department: Engineering
Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
PHY-270	General Physics III	3
Semester Offered	**Contact Hours**	**Prerequisites**
Fall, Spring	56	PHY-160 General Physics II. Basic concepts and principles of Physics in the area of static electricity and electromagnetism and familiarization with experimentation.
Department	**Level of Course**	**Language of Instruction**
Engineering	Lower Division	English

Course Description

The following topics are covered: Fluids, pressure, temperature, zeroth law of thermodynamics, Celsius & Fahrenheit scales, thermal expansion. Heat, first law of thermodynamics. Kinetic theory of gases. Ideal gases, pressure and temperature. Translational kinetic energy, molar specific heats. Equipartition of energy. Second Law of thermodynamics. Ideal engine, Carnot cycle, real engines, entropy. Waves, wavelength, frequency, superposition, interference, standing waves, resonance. Sound waves, intensity, Doppler effect. Maxwell's equations, induced magnetic fields. Electromagnetic waves, radiation pressure, polarization. Geometrical optics. Interference, light as a wave, diffraction, Young's experiment, coherence. Diffraction: single-slit, double slit, multi slit. Special Relativity: events, time dilation, length contraction, Lorenz transformation, transformation of velocities, Doppler effect, momentum and energy.

Instructor

Dr Marios Nestoros

Course Aims and Objectives

To introduce students to the basic concepts and principles of Physics in the area of waves, optics, thermodynamics and modern Physics.

Teaching Methods

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

Course Teaching Hours

The course is 56 hours (50 hours lectures/presentations + 6 hours laboratory work and demonstrations) long and is delivered in 14 weeks (4 hours/week).

Evaluation and Grading

Homework/Participation:	0%
Test 1:	25%
Test 2:	25%
Final Exam:	40%

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