

UNIVERSITY OF PUERTO RICO AT ARECIBO
PHYSICS/CHEMISTRY DEPARTMENT
BACHELOR OF TECHNOLOGY IN INDUSTRIAL CHEMICAL PROCESSES

Course N°: FISI 3001

Title of Course: General Physics I

Credits: 3

Open to: Industrial Chemical Processes
Technology students

Contact Hours: 3/weekly

Pre-requisite: MATE 3172

Textbook: *Física: Conceptos y Aplicaciones*

Author: Paul E. Tippens

Co-requisite: none

Publisher: Mc Graw Hill

Publication Year: 2007

Supplemental Materials:

- *Diccionario de Física*, McGraw Hill, 1991.
- Encyclopedia of Physics, VCH Publishers, 1991.
- www.wolframalpha.com

Term: First Semester

Course Coordinator: Prof. Ángel Acosta

Course Description: Introductory course in physics. Integrated version of physics emphasizing the principles of conservation of energy, kinematics, dynamics, statics and thermodynamics.

Course Objectives:

- Study the laws of physics.
- Apply the physical and mathematical principles that govern nature.
- Develop reasoning and analysis skills in the solution of problems involving physical principles.

Relation of Course to Program Objectives:

1	2	3	4
x			

Relation of Course to Program Outcomes:

1	2	3	4	5	6	7	8	9	10	11
x	x	x								

Evaluation/Grade Reporting: 2 partial exams (60%), homework (10%) and final exam (30%)

Topics	Teaching/Learning Strategies Time Distribution (hours)
Units and Vectors	Lecture (5)
Equilibrium	Lecture (5)
Kinematics	Lecture (5)
Newton's Laws and Gravity	Lecture (5)
Work and Energy	Lecture (5)
Momentum	Lecture (5)
Rotational movement	Lecture (5)
Elasticity and Fluid Mechanics	Lecture (5)
Thermodynamics	Lecture (5)
Total	45