

Course Syllabus

PHYSICS I

Printed by: jfmoncay

Program: Telecommunications Engineering

1. Course number and name

FISG1001 - PHYSICS I

2. Credits and contact hours

3 credits and 5 contact hours

3. Instructor's course or coordinator's name

DICK ROLANDO ZAMBRANO SALINAS

4. Text book, title, author, and year

- YOUNG y FREEDMAN. FÍSICA UNIVERSITARIA VOL 1 13ª EDICIÓN (11)

5. Specific course information

- a. Brief description of the content of the course (catalog description)

Physics I is a theoretical-practical subject aimed at engineering students, which contributes to the learning of the essential concepts of particle mechanics, rigid bodies and fluid mechanics, in an active learning environment; through the continuous evaluation of concepts, problem solving and laboratory practices.

- b. Prerequisites

SINGLE VARIABLE CALCULUS - MATG1001

- c. This course is: Required

6. Specific goals for the course

- a. Specific outcomes of instruction

1.- Analyze the different types of movements applying the differential and integral calculus.

2.- Apply the laws of Newton in the resolution of problems of equilibrium, dynamics of translation and rotation, through the use of differential and integral calculus.

3.- Use the laws of conservation of energy, linear and angular momentum, for the mechanical description of a physical system.

4.- Analyze the mechanical properties of solids and fluids for the understanding of the deformation of materials and fluids at rest and in motion.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data

7. Brief list of topics to be covered

1.- Kinematics

2.- Dynamic



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- 3.- Work and Energy
- 4.- Impulse and Linear Momentum
- 5.- Rotational Dynamic
- 6.- Static Equilibrium and Elasticity
- 7.- Oscillatory Motion
- 8.- Fluid mechanics
- 9.- Gravitational Field