Course Syllabus

PHYSICS: MECHANICS

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Program: Oceanographic Engineering

1. Course number and name

FISG1005 - PHYSICS: MECHANICS

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, tittle, 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: Mechanics is a basic, theoretical-practical training course aimed at engineering students, with laboratory experimentation activities, which provides the fundamentals of particle mechanics, rigid bodies and fluid mechanics, in an environment of active learning.

b. Co - Requisites

SINGLE VARIABLE CALCULUS - MATG1045

c. This course is: Required

6. Specific goals for the course

a. Specific outcomes of instruction

1.- Analyze the different types of movements to evaluate their kinematic differences, applying differential and integral calculus.

2.- Apply Newton's laws in solving problems of equilibrium, translational and rotational dynamics, 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 to understand the deformation of materials and fluids at rest and in motion.

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

7. Brief list of topics to be covered

1.- Evaluation activities

2.- Kinematics

3.- Dynamic

4.- Work and energy

5.- Impulse and collisions

6.- Rotational dynamics
7.- Equilibrium and elasticity
8.- Hydrostatic and hydrodynamic