# Physics I

**Academic Year: ( 2020 / 2021 )** **Review date: 26-10-2020**

**Department assigned to the subject: Physics Department**

**Coordinating teacher: CRUZ FERNANDEZ, ROSA MARIA DE LA**

**Type: Basic Core ECTS Credits : 6.0**

**Year : 1 Semester : 1**

**Branch of knowledge: Engineering and Architecture**

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

The students should know Elemental Physics at level of High School.

## OBJECTIVES

1. Basic knowledge of the physical fundaments related to mechanics and thermodynamics.
2. Necessary skills for the development and resolution of problems of mechanics and thermodynamics by using established methods.
3. Necessary skills to design experiments of mechanics and thermodynamics and to interpret the obtained results and draw conclusions.
4. Necessary skills for the experimental techniques and the use of measurement equipments related with the mechanics and thermodynamics.
5. Necessary skills to select and to use tools and methods to resolve problems of mechanics and thermodynamics.
6. Necessary skills to combine the theory and experiments to resolve problems of mechanics and thermodynamics.
5. Mesearuments and experimental anlysises of magnitudes related to Mechanics and Termodinamics.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Kinematics of a particle

2. Dynamics of a particle

3. Conservative and non-conservative forces. Work and energy

4. System of particles

5. Kinematics of rigid solid

6. Dynamics of rigid solid

7. Introduction to Thermodynamics. Temperature. Ideal gases

8. First Principle of Thermodynamics

9. Second Principle of Thermodynamics

10. Entropy

## LEARNING ACTIVITIES AND METHODOLOGY

- Magister and practical teaching sessions. Also, it is necessary the attendance of students to laboratory sesions.

## ASSESSMENT SYSTEM

The grade consists in 60% of the final exam and 40% of the continuum evaluation.
The attendance at laboratory sessions along with the practises delivery are obligatory in order to pass satisfactorily the subject.
The students have to obtain a remark of 3 over 10 in the final exam to make the median value of all evaluations.

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| **% end-of-term-examination:** | 60 |
| **% of continuous assessment (assigments, laboratory, practicals…):** | 40 |

BASIC BIBLIOGRAPHY


- P.A. Tipler Physics, Vol 1, Ed. Reverte, 2005
- Serway-Jewett Physics for Scientists and Engineers, 9th Edition, Boston (USA), 2012
- W. Bauer and G.D. Westfall University Physics with Modern Physics, , Vol 1, 2012