

SUBJECT TEACHING GUIDE

G312 - PHYSICS 1

Degree in Maritime Engineering

Academic year 2022-2023

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------|--------------|
| Degree | Degree in Maritime Engineering | | | Type and Year | Core. Year 1 |
| Faculty | School of Maritime Engineering | | | | |
| Discipline | Subject Area: Physics Basic Training Module | | | | |
| Course unit title and code | G312 - PHYSICS 1 | | | | |
| Number of ECTS credits allocated | 6 | Term | Semester based (1) | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | Yes | Mode of delivery | Face-to-face |

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|------------------|--|--|--|--|--|
| Department | DPTO. FISICA APLICADA | | | | |
| Name of lecturer | VIDAL FERNANDEZ CANALES | | | | |
| E-mail | vidal.fernandez@unican.es | | | | |
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| Other lecturers | MARIA DOLORES ORTIZ MARQUEZ | | | | |

3.1 LEARNING OUTCOMES

- Be able to solve problems related with general physics laws, and apply this ability to:
 - write technical reports
 - develop a physical model of a process
 - design and perform experiments
 - identify the key points in a physical process, and perform graphical, numerical, analytical and experimental analysis
 - check results according to the accuracy of the experimental set up

4. OBJECTIVES

Acquire basic Physics knowledge
 Explain usual phenomena by using simple models
 Use experimental and mathematical tools
 Analyze diverse physical phenomena
 Perform experiments acquire data, analyze results and derive conclusions
 Write precisely technical reports
 Solve qualitatively and quantitatively related problems

6. COURSE ORGANIZATION

CONTENTS

| | |
|-----|---------------------------------------|
| 1 | Introduction to Physics |
| 1.1 | Matter structure |
| 1.2 | Measuring. |
| 1.3 | Vectors |
| 2 | Mechanics |
| 2.1 | Cinematics |
| 2.2 | Dynamics |
| 2.3 | Work and energy |
| 2.4 | Applications: Oscillations and Fluids |

7. ASSESSMENT METHODS AND CRITERIA

| Description | Type | Final Eval. | Reassessn | % |
|-----------------|-----------------------|-------------|-----------|---------------|
| Laboratory | Laboratory evaluation | No | No | 20,00 |
| Periodics exams | Written exam | No | Yes | 40,00 |
| Final exam | Written exam | Yes | Yes | 25,00 |
| Assigned tasks | Work | No | Yes | 15,00 |
| TOTAL | | | | 100,00 |

Observations

The pupils can discard those assigned tasks and periodic exams with a low mark, and retake their percentage in the final exam.

Observations for part-time students

Part-time students can ask for a laboratory exam in order to obtain the corresponding mark (20%) if they can not attend the laboratory ordinary sessions.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Física para la ciencia y la tecnología, P. Tipler y G. Mosca (Reverté)

Física para ciencias e ingeniería, R. Serway y J. Jewett (Paraninfo)

Física Universitaria, Sears y Zemansky / Young y Freedman, 13 ed., (Pearson)

Material didáctico en curso moodle y web de la asignatura <http://personales.unican.es/fernancv/Fisica>

