

Academic Year/course: 2022/23

## 26905 - Fundamentals of Physics II

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 26905 - Fundamentals of Physics II

**Faculty / School:** 100 - Facultad de Ciencias

**Degree:** 447 - Degree in Physics

**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Basic Education

**Module:**

## 1. General information

### 1.1. Aims of the course

The aims of the course are aligned with the following Sustainable Development Goals (SDGs):

- Goal 9: Industry, Innovation and Infrastructure

## 2. Learning goals

## 3. Assessment (1st and 2nd call)

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, autonomous work, study and assessment tasks.

Students are expected to participate actively in class throughout the semester.

Further information regarding the course will be provided on the first day of class.

### 4.2. Learning tasks

The course is organized by topics. Each of the topics is structured as follows:

- Lectures: Each topic consists of several lectures, in which the main concepts are presented.
- Applications: The Physics of each topic is applied to several cases.
- Practice sessions: Problems related to the topic are solved.

### 4.3. Syllabus

The course will address the following topics:

- Topic 1. Waves
- Topic 2. Gravitational fields
- Topic 3. Electric fields

- Topic 4. Conductors and dielectrics
- Topic 5. DC currents
- Topic 6. Magnetism fields
- Topic 7. Magnetism induction
- Topic 8. Electromagnetic waves
- Topic 9. Optics

#### 4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Facultad de Ciencias web <https://ciencias.unizar.es/grado-en-fisica-0>.

Organization of the sessions: Each topic has different time duration. Here is presented an approximate length of each item:

- Topic 1 (10 horas)
- Topic 2 (6 horas)
- Topic 3 (7 horas)
- Topic 4 (9 horas)
- Topic 5 (5 horas)
- Topic 6 (8 horas)
- Topic 7 (6 horas)
- Topic 8 (3 horas)
- Topic 9 (6 horas)
- The exam will be taken in the dates decided by the Science Faculty.

#### 4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26905>