Universidad Zaragoza

Academic Year: 2025/26

26932 - Astronomy and Astrophysics

Teaching Plan Information

Academic year: 2025/26
Subject: 26932 - Astronomy and Astrophysics
Faculty / School: 100 - Facultad de Ciencias
Degree: 447 - Degree in Physics
ECTS: 5.0
Year: 4 and 3
Semester: First semester
Subject type: Optional
Module:

1. General information

The objective of the subject is to learn about basic astronomical measurements, the phenomenology of stars and galactic astronomy . The student will become familiar with the different types of astronomical coordinate systems, with the apparent distribution of stars and their large-scale motion, with the basic equations for describing stellar interiors and the properties of stellar matter, with the interstellar medium, and with the different types of galaxies.

2. Learning results

- To know the distribution of stellar populations and the movement of stars both in the solar neighbourhood and on a galactic scale
- To understand stellar evolution.
- To know the distribution of the different components of the interstellar medium and to understand their physics. To understand the dynamics of our galaxy.
- To know the different types of galaxies.
- To be able to draw the conclusions derived from basic observational data.
- The student will be able to distinguish conclusions derived from observational data from their model-dependent interpretations

3. Syllabus

- Topic 1: Positions, movement and distance to stars.
- Topic 2: Structure and kinematics of the stellar system.
- Topic 3: Astronomical photometry.
- Unit 4: Stellar structure and evolution.
- Topic 5: The Sun and the solar system.
- Topic 6: The interstellar medium.
- Topic 7: Components of the Milky Way.
- Topic 8: Normal galaxies and active galaxies.

4. Academic activities

- Lectures: sessions where the teacher will explain the topics mentioned in the syllabus. 30 hours.
- Problem solving and case studies: problem solving sessions and proposed case studies: 15 hours.
- Special practices: field practices in which astronomical observations will be carried out: 5 hours.
- Personal study. 70 hours.
- Assessment tests. 5 hours.

5. Assessment system

Activity 1: It represents 30% of the final grade.

Continuous evaluation through the resolution of problems and questions throughout the teaching period of the subject which will deal with the different contents.

Also, students will be able to propose works that complement the topics covered in the subject. It will be carried out in groups. It can be submitted in writing to during the teaching period. It will be evaluated according to its completeness and correctness.

Activity 2: It represents 70% of the final grade of the subject.

Performance of a written test in which students will solve problems of stellar structure and interstellar medium. It will be carried out after the delivery of these chapters of the subject.

Students can pass 100% of the subject through activities 1 and 2. All students, however, have the option of passing the subject by means of a single global test. The evaluation will be obtained by means of an examination test consisting of problems that will deal with the different contents of the subject.

6. Sustainable Development Goals

4 - Quality Education