

26952 - Geophysics

Syllabus Information

Academic year: 2024/25

Subject: 26952 - Geophysics

Faculty / School: 100 - Facultad de Ciencias

Degree: 447 - Degree in Physics

ECTS: 5.0

Year:

Semester: Second semester

Subject type: Optional

Module:

1. General information

Optional subject in which some of the main processes and phenomena taking place in the solid part of the Earth are considered.

Although, broadly speaking, planet Earth can be viewed as a system of fluids in interaction that as a whole remains in a state of equilibrium, in this subject only the solid Earth will be considered, with the aim of offering an introduction to the knowledge of the main natural fields of the planet (gravitational field, magnetic field, thermal field, elastic field).

2. Learning results

- Understanding and interpreting the main physical phenomena related to the solid Earth.
- Knowing the physical laws governing geophysical processes.
- Knowing some of the methods of work used in the area of Geophysics.
- Interpreting data related to the different natural force fields (gravitational, magnetic, thermal, elastic fields) of interest in Geophysics.

3. Syllabus

- Gravitational field. Gravitational potential due to a rigid solid body.
- Normal gravity. Reference ellipsoid. Geoid.
- Geomagnetic field.
- Geothermal flow. Heat propagation.
- Elastic field. Seismic waves.
- Earthquakes. Seismicity.

4. Academic activities

Master classes: 35 hours.

Problem solving: 15 hours.

Study: 70 hours.

Assessment tests: 5 hours.

5. Assessment system

Throughout the academic period of classroom lectures the student's performance and achievements will be assessed by means of a process of continuous assessment based on a series of tasks involving the detailed written solution of exercises and problems and the oral presentation of some academic works. Student's active participation during the lectures will also be considered.

The detailed written solution of exercises, problems and works handed in by the students will be separately revised and commented by the teacher with each student, in individual sessions of revision, once students have completed their handing in of the tasks proposed during the period of lectures.

Up to 60% of the final grade can be obtained in a written examination at the end of the academic period (after finishing the usual period of lectures). This percentage might be reduced by carrying out some additional academic works, depending on the interest and previous performance of the student, and on the quality and rigor of the results throughout the continuous assessment process.

In any case, the student has the right to pass the subject by means of a unique global written examination. The written test is a conventional exam of practical contents. During this exam teaching resources (books, lecture notes, etc.) can be used. The

degree of difficulty of this test is similar to that of the problems and exercises solved throughout the period of lectures.

6. Sustainable Development Goals

4 - Quality Education
13 - Climate Action