

26427 - Geological Hazards

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	296 - Degree in Geology
ECTS	6.5
Course	4
Period	Second semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

Geological risk refers to the damage caused by geological processes on the human environment, including casualties, injuries and economic losses. The main objective of the geological risk analyses is to provide adequate knowledge and tools for the efficient and cost-effective prevention and/or reduction of the potential social and economic losses. In the current scenario, in which detrimental effects related to natural disasters are rapidly increasing, geologists are key actors in the design and implementation of mitigation policies. The subject has an outstanding importance in the professional activity of applied geologists and their societal service.

The aim of this subject is to gain theoretical and methodological basis to develop basic geological risk analyses: (1)

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Identify and map geological evidence of hazardous geological processes. (2) Predict their spatial-temporal distribution. (3) Construct magnitude and frequency relationships. (4) Select adequate mitigation measures.

The learning program, which includes theoretical lectures, seminars, practical sessions, field trips and presentations given by the students, has been designed to achieve the following goals:

- Acquisition of sufficient theoretical and practical background to develop basic hazard and risk analyses.
- Ability to obtain information on hazardous geological processes from the field, remote-sensed images and databases.
- Interfacing with key bibliographic resources.
- Practising the oral and written presentation of working hypotheses, data and interpretations.

5.2.Learning activities

The program includes the following learning activities:

- Theoretical lectures
- Talks given by the lecturer in English
- Presentations on theoretical topics by the students
- Lab practical sessions
- Field trips (4 days)

5.3.Program

- Introduction to the geological hazards
- Seismic hazard
- Volcanic hazard
- Landslide hazard
- Avalanche hazard
- Flooding hazard

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- Subsidence hazard
- Soil erosion
- Expansive clays
- Hazards related to coastal activity
- Eolian hazards

5.4.Planning and scheduling

The program includes theoretical lectures (30 hours), seminars (10 hours), five lab practical sessions (2 hours each), and field trips (4 journeys).

The dates, time table and venue will follow the schedule designed and announced by the Department of Earth Sciences and the Faculty of Science.

5.5.Bibliography and recommended resources

- | | |
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Murck, Barbara W.. Dangerous earth : an
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Barbara W. Murck, Brian J. Skinner,
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