

## 28335 - Natural Risks Analysis

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	103 - Facultad de Filosofía y Letras
<b>Degree</b>	419 - Degree in Geography and Land Management
<b>ECTS</b>	6.0
<b>Course</b>	
<b>Period</b>	Half-yearly
<b>Subject Type</b>	Optional
<b>Module</b>	---

### **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**

The learning and teaching methodology developed in the course is aimed to promote the attainment of its objectives. A wide range of teaching and learning activities is implemented, such as interactive lessons, practical exercises, individual or group activities, directed activities, field work and private study.

A high level of student participation will be required from all students throughout the course.

Extensive material will be available *via* the Moodle site of the course. This offers a variety of resources including a

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repository of the lecture notes used in class, as well as other forms of course-specific materials, including a discussion forum.

### 5.2.Learning activities

Lecture sessions: 18,75 hours

Practical activities: Interactive, individual or group activities: 28,75 hours

Directed activities: 12,5 hours

Field work: 12,5 hours

Private study: 75 hours

Assessment: 2,5 hours

### 5.3.Program

1. Analysis and management of natural risks: basic concepts, typology of risks, methodologies of analysis, management principles, forecast and prevention, natural risks and land management.
2. Meteorological and climatic risks: extreme temperatures, rainfall, drought, wind.
3. Hydrological risks: floods, extreme marine processes.
4. Risks from internal geodynamics: volcanoes, earthquakes, tsunami.
5. Risks from external geodynamics: avalanches, slope processes, subsidences, other geomorphic processes.
6. Other natural risks: cosmic, physical, chemical and biological.

### 5.4.Planning and scheduling

The course is divided into 6 thematic blocks.

The field works will be in group: the first one at the beginning of April (block 3) and the second one in the middle of May (block 5).

For further details concerning the timetable, classroom and other information of the course please refer to the

*"Facultad de Filosofía y Letras"* web site (<https://fyl.unizar.es/horario-de-clases#overlay-context=horario-de-clases>)

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### 5.5. Bibliography and recommended resources

- AYALA, F.J. y OLCINA, J. (Coords., 2002): Riesgos naturales. Ariel, 1.512 p., Barcelona
- CALVO, F. (2001): Sociedades y territorios en riesgo. Ediciones del Serbal, 186 p., Barcelona.
- DÍEZ HERRERO, A.; LAÍN, L. y LLORENTE, M. (2008): Mapas de peligrosidad por avenidas e inundaciones. Guía metodológica para su elaboración. Instituto Geológico y Minero de España, 190 p., Madrid.
- OLCINA, J. (2006): ¿Riesgos Naturales? I. Sequías e inundaciones. Ed. Da Vinci Continental. 220 p., Barcelona.
- OLCINA, J. (2006): ¿Riesgos Naturales? II. Huracanes, sismicidad y temporales. Da Vinci Cont. 205 p., Barcelona.
- OLLERO, A. (2014) Guía metodológica sobre buenas prácticas en gestión de inundaciones. Manual para gestores. Contrato de Río del Matarraña, 143 p., Zaragoza.
- SÁNCHEZ MARTÍNEZ, F.J. y LASTRA, J. (Coords., 2011): Guía metodológica para el desarrollo del Sistema Nacional de Cartografía de Zonas Inundables. Ministerio de Medio Ambiente y Medio Rural y Marino, Madrid.