

Academic Year/course: 2022/23

## 66714 - Applied to the Resolution of Environmental Problems Cartography

### Syllabus Information

Academic Year: 2022/23

Subject: 66714 - Applied to the Resolution of Environmental Problems Cartography

Faculty / School: 103 - Facultad de Filosofía y Letras

Degree: 328 - Master's in Land and Environmental Planning

ECTS: 6.0

Year: 1

Semester: Annual

Subject Type:

Module:

## 1. General information

### 1.1. Aims of the course

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### 1.2. Context and importance of this course in the degree

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### 1.3. Recommendations to take this course

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## 2. Learning goals

### 2.1. Competences

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### 2.2. Learning goals

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### 2.3. Importance of learning goals

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

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

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

### 4.1. Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of

teaching and learning tasks are implemented, such as participative sessions, practical exercises, individual or group activities, guided activities, field work and autonomous work.

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

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

## 4.2. Learning tasks

The course includes the following learning tasks:

- Theory sessions (15 hours).
- Practical activities (45 hours).
- Autonomous work and study (84 hours).
- Assessment tasks (6 hours).

## 4.3. Syllabus

The course will address the following topics:

Topic 1. Cartography: principles and elements.

Topic 2. Principles, instruments and methodologies for acquiring spatial information.

- 2.1. Direct methods: GNSS, submetric GPS.
- 2.2. Indirect methods: georeferencing images.
- 2.3. Indirect methods: Web Servers.

Topic 3. Raster modeling and analysis of environmental information.

- 3.1. Digital Elevation Model.
- 3.2. Main modelling and analysis tools.
- 3.3. Map algebra.

Topic 4. Cartographic editing toolset.

Topic 5. Web Map Server: Spatial data infrastructures (SDI and metadata).

Topic 6. Preparation and format of the project report.

## 4.4. Course planning and calendar

The course is divided into 6 sections. The first section includes the following topics: 1 and 2; it runs during the first week. The second section includes topic 3 and runs during the following 4 weeks. The final sections 4,5,6 cover the topics of cartographic and the project; they run during the final 3 weeks of the course.

Further information concerning the timetable, classroom, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the 'Facultad de Filosofía y Letras' website (<https://fyl.unizar.es/horario-de-clases#overlay-context=horario-de-clases>)

## 4.5. Bibliography and recommended resources

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- MANCEBO, S., ORTEGA, E., VALENTÍN, A.C., MARTÍN, B. y MARTÍN, L. (2008): *Libro SIG: aprendiendo a manejar los SIG en la gestión ambiental*, Madrid, 108 pp.
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- ORDÓÑEZ, C. y MARTÍNEZ-ALEGRÍA, R. (2002): *Sistemas de Información Geográfica*, Madrid, 227 pp.