

## 60417 - Introduction to Geographic Information Technologies

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 60417 - Introduction to Geographic Information Technologies

**Faculty / School:** 103 - Facultad de Filosofía y Letras

**Degree:** 352 - Master's in Geographic Information Science and Technology for Land Management: Geographic Information Systems and Remote Sensing

**ECTS:** 3.5

**Year:** 1

**Semester:** Annual

**Subject type:** Compulsory

**Module:**

### 1. General information

This compulsory subject is part of an initial module focused on the consideration of introductory aspects related to Geographic Information Technologies. Its specific objectives are: 1. To know the basic concepts related to GIT, from their theoretical-epistemological consideration. 2. Basic learning of the logical resources most used in the master's degree, both in GIS and remote sensing.

These approaches and objectives are aligned with the following SDGs: 2, 6, 11, 13, 14 and 15.

### 2. Learning results

In order to pass this subject, the students shall demonstrate they has acquired the following results:

1. Explain in a reasoned way the fundamental concepts of GIT: GIScience-TIG and GIScience-Geospatial Technology.
2. List and justify the training requirements in GIT for Land Management in their roles and competencies.
3. Identify and value the spatial, spatio-temporal and semantic component of the geographic context at an ontological and epistemological level with a view to modelling spatial information from data and analysis operations.
4. Explain and differentiate the organization and structure of the specific GIS logic resource that is to be used in the majority of the curriculum subjects.
5. Compare in a reasoned way the properties and possibilities of the different elements and specific formats of the specific GIS logical resource used.
6. Is able to skilfully employ the basic functions and tools of the specific GIS logic resource used.
7. Describe the general organization of the modules, functions and tools of the specific remote sensing software resource used and the structure and geometry of the main file types managed by the program.
- 8- Apply - in the specific remote sensing software used - the specific functions and tools related to visualization, colour compositing and image enhancement, as well as the consultation of radiometric information and the analysis of spectral signatures.

### 3. Syllabus

The subject's syllabus is structured as follows:

- 1.1. Geographic information technologies (GIT): introductory aspects
- 1.2. Learning of programs: a) basic use of ArcGIS; b) basic use of ENVI;

### 4. Academic activities

The program offers the students help to achieve the expected results and comprises the following activities that are distributed into the different thematic blocks:

1. Theoretical master classes.
2. PRACTICAL SESSIONS.
3. Personal study.
4. Assessment

## 5. Assessment system

### First Call:

Continuous evaluation: it will take place within the class period. It is evaluated separately according to the thematic blocks that compose it: 1.1. 0% (optional to modify the overall grade of the subject); 1.2(a): 50%; 1.2(b): 50%. A minimum grade ( $\geq 4$  points) in the blocks is required for averaging.

The evaluation consists of the following tests: 1.1: individual paper of bibliographic review (100%); 1.2(a): paper (100%); 1.2(b): paper (100%).

Assessment criteria 1.1: presentation, structure and development of the work, level of comprehension of the texts used, completeness of the contents of the work with respect to the texts used, coherence-congruence of the arguments and assessments, references and connections to other works or concepts. 1.2: mastery of the contents, correct use of terminology, accuracy of the concepts and formal aspects of presentation of the explanatory report that will accompany the results obtained in the exercises.

Global evaluation: same type of tests and with identical evaluation criteria as in the continuous evaluation. It will be held on the date of the exam period set by the Faculty.

### Second Call:

Overall evaluation: identical to that of the first call.