UNIVERSIDAD
COMPLUTENSE
MADRID

Master's Degree
Faculty of Geography and History

GEOGRAPHIC INFORMATION TECHNOLOGIES

MASTER'S DEGREE

GEOGRAPHIC INFORMATION TECHNOLOGIES

Field of Knowledge: **History, Archaeology, Geography, Philosophy and Humanities**

Responsible center: **Faculty of Geography and History. Universidad Complutense de Madrid (UCM)**

www.ucm.es/master-geografia

Orientation: **professional**

Credits: **60 ECTS**

Duration: **1 year (2 semesters)**

Modality: **face-to-face**

OBJETIVES

Geographic Information Technologies (GIT) are a field in growing expansion, due to its versatility, with application in areas as diverse as the environment and natural resources, land management, urban planning, transport planning, management and planning of public services, geo-marketing, or "Big (Geo)Data". The core of these technologies lies in geographic information systems, remote sensing, and digital mapping, as well as GPS and photogrammetry. GIT are basic tools in research, planning and land use management; having demonstrated their ability to solve a multitude of problems with a spatial component, which makes them increasingly used in research and in the professional world (both private companies and public administrations).

The Master's Degree is of a professional nature, so it is aimed at qualifying students for their work as experts in Geographic Information Technologies, both in the business world and in public administrations. But it also provides the necessary preparation to be able to direct the student's future towards research, so that after completing the Master's Degree it is possible to continue with Doctorate studies.

PROSPECTIVE STUDENTS

Graduates in disciplines related with spatial planninng: geographers, geologists, biologists, environmentalists, economists, sociologists, archaeologists, topographers, cartographers and geodesy engineers, foresters, civil engineers, agronomists, etc. Most of the lectures are given in Spanish.

WHY STUDY THIS MASTER'S DEGREE?

GIT are basic tools in research, planning and land use management and have proven their ability to solve a multitude of problems with a spatial component, which makes them increasingly used in both private companies and public administrations, which hire experts in GIT to work in areas as diverse as the sustainable use of natural resources, natural risk prevention, management of natural areas, environmental impact studies, urban planning, transport planning, management of public services, geo-marketing, "Big (GEO)Data" analysis, as well as for 3D modelling.

STRUCTURE

The Master's Degree consists of 60 ECTS, divided into two modules, the Practicum, and the Master's Thesis:

- Fundamentals of GIT Module: 18 compulsory ECTS
- GIT and its Applications Module: 30 elective ECTS
- Practicum: 6 compulsory ECTS
- Master's Thesis: 6 compulsory ECTS

All subjects are 6 ECTS. Students must take the 3 compulsory subjects and choose 5 of the 7 optional offered subjects.

SYLLABUS

SUBJECT TYPE	ECTS
Compulsory	18
Electives	30
External Internships	6
Master's Thesis	6
Total	**60**

COMPULSORY SUBJECTS	ECTS	SEMESTER
Fundamentals of GIT Module		
Cartography I	6	1st
Geographic Information Systems I	6	1st
Remote Sensing	6	1st

ELECTIVE SUBJECTS	ECTS	SEMESTER
GIT and its Applications Module		
Cartography II	6	1st
Databases	6	1st
Geographic Information Systems and Spatial Statistics	6	1st
Geographic Information Systems II	6	1st
Programming	6	1st
Applications in Environment	6	2nd
Applications in Urban Studies and Territorial Planning	6	2nd

EXTERNAL INTERNSHIPS	ECTS	SEMESTER
External Internships	6	2nd

MASTER'S THESIS	ECTS	SEMESTER
Master's Thesis	6	2nd

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Másteres UCM

Faculty of Geography and History

Campus de Moncloa
geografiaehistoria.ucm.es
For more information: www.ucm.es/master-geografia

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