

Degree	Type	Year
Geography, Environmental Management and Spatial Planning	OP	4

Contact

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

To take this course, you must have an equivalent level of Catalan and/or Spanish to at least B2.

Objectives and Contextualisation

This subject has two objectives. Firstly, it aims to train students to act as planning agents within decision-making processes, equipping them with the skills to analyse, defend and negotiate sustainable and socially just territorial proposals. Secondly, it aims to provide students with a comprehensive and critical understanding of Geographic Information Systems (GIS) as a fundamental tool in territorial, urban and environmental planning. Students will learn to formalise planning models and apply them in different contexts, paying special attention to the ethical dimension and the responsible management of geospatial data.

The cross-cutting nature of the subject's approach is notable, as it covers both urban and rural environments, significantly impacting the social, economic, and environmental dimensions of the territory. Students will therefore need to master the technical and conceptual tools specific to territorial planning and develop a critical, reflective and responsible attitude towards the challenges posed by territorial management.

Learning Outcomes

1. CM27 (Competence) Use geographical information systems as a tool to obtain answers to certain questions related to geoinformation.
2. CM28 (Competence) Make use of GIS in the understanding of spatial, environmental, economic and social phenomena.
3. KM43 (Knowledge) Distinguish between the different cartographic information systems in a specific study.
4. SM38 (Skill) Apply GIS for territorial planning and management from geographical and environmental viewpoints.

Content

In order to develop, interpret and apply this planning correctly, it is essential to know the most relevant regulatory framework. For this reason, the course introduces the fundamental principles of the methodology and procedures related to territorial and sectoral planning.

Organised into theoretical and practical sessions, the course aims to equip students with the necessary skills to address both aspects. This approach enables students to apply their knowledge to real situations by proposing and solving practical territorial analysis cases using different models and strategic plans.

Students will also work with geographic information at different territorial scales, carrying out complete processes of capture, analysis, proposal formulation and result interpretation. The course aims to foster a reflective and responsible attitude towards the current challenges of territorial management by developing an applied and critical understanding of the territorial reality.

Syllabus:

1. Introduction to GIS in spatial, urban and environmental planning
2. Decision-making and modelling in spatial planning Decision-making and Modelling in Spatial Planning
3. GIS and the management of spatial conflicts
4. Sustainable spatial planning strategies and GIS
5. Citizen Science, Participatory Urbanism and GIS: Collaborative Mapping
6. The challenges of geospatial artificial intelligence (AI).
7. Ethics, privacy and the responsible management of geospatial data

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Theoretical (TE) and GIS practical classroom (PLAB)	48	1.92	CM27, CM28, KM43, SM38, CM27
Type: Supervised			
Supervision of course work	25	1	CM27, CM28, KM43, SM38, CM27
Type: Autonomous			
Autonomous study and realization of internships and coursework	75	3	CM27, CM28, KM43, SM38, CM27

The course will be structured from directed activities and autonomous activities where the student will learn to de

The contents of the subject will be developed through the following activi

- 1) Readings and follow-up of the course material.
- 2) Reading of books and articles (individual activity of the students comp
- 3) Carrying out practical exercises in simulated scenarios based on GIS.
- 4) Final work, related to the class syllabus and the practical exercises.

- The practical activity is structured in three axes:
- Guided and tutored practices in each of the topics.
 - Verification of theoretical and methodological knowledge.
 - The course concludes with a final project that combines the theoretical

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assigments	25	0	0	CM27, CM28
Class activity and case studies	20	0	0	CM27, CM28, KM43, SM38
Exam	30	2	0.08	CM27, CM28, KM43, SM38
Term paper	25	0	0	CM27, CM28, KM43, SM38

The assessment is continuous, therefore, in order to achieve the knowledge it is necessary to follow up throughout the course.

Written or oral test at the teacher's discretion (30%).

Class activities and class participation (20%).

Practical work (25%)

Coursework (25%)

The final mark is calculated from the weighted average of the evaluation activities. But attention: in order to pass the course, the written or oral test (exam) and the coursework must be passed.

Assessment of the exam: the relevance of the answer and the degree of knowledge of the subject will be assessed. Assessment of the practicals and cases worked on in class: Formal aspects, the correct calculation of the indicators (provided that this is the objective of the practical), the appropriate performance of a structured analysis of the results obtained, the interpretation of the results. In the specific case of the analysis of texts, the ability to extract and present the most relevant information and to relate it will be especially valued.

Assessment of the coursework: the formal aspects, the approach to the objectives, the problem and the models used for an improvement in the planning of services, the definition of the variables of analysis, the resolution of the results, their interpretation, conclusions and their public presentation, if appropriate.

Recovery

The exam can be taken again if it has been failed.

Not evaluable

Students who have not handed in more than 30% of the evaluation activities will receive a grade of 'Not evaluable'.

Plagiarism

If the student commits any irregularity that may lead to a significant variation in the grade of an assessment, this assessment will be graded as 0, regardless of any disciplinary process that may take place. If several irregularities occur in the assessments of the same subject, the final grade for this subject will be 0.

Use of artificial intelligence

Restricted use: For this subject, the use of artificial intelligence (AI) technologies is permitted only for support tasks such as bibliographic or information searches, proofreading, and translations. Students must clearly identify which parts have been generated using AI technologies, specify the tools used, and include a critical reflection on how these technologies have influenced the process and the final result of the activity. Failure to be transparent about the use of AI in this assessable activity will be considered academic dishonesty and may result in a partial or total penalty for the activity, or a more severe penalty in serious cases.

Single assessment

This subject/module does not include a single assessment system.

Bibliography

SOME REFERENCES WILL BE ADDED.

Castañer, Margarida (Editora) (2012). El planejament territorial a Catalunya a inici del segle XXI. Una nova interpretació i projecció del país. Barcelona: Societat Catalana d'Ordenació del Territori. ISBN 978-84-9965-121-7.

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Kumar, Manish; Singh R. B.; Singh. Anju; Pravesh, Ram (2023). Geographic Information Systems in Urban Planning and Management. Springer. Disponible a la biblioteca de la UAB online.

Olaya, V. Sistemas de Información Geográfica. <https://volaya.github.io/libro-sig/>

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van Maarseveen, Martin; Martinez, Javier; Flacke, Johannes (2018). GIS in sustainable urban planning and management. A global perspective. Open access. <https://library.oapen.org/handle/20.500.12657/101477>

Software

ArcGIS Pro and/or MiraMon will be used.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	1	Catalan	second semester	morning-mixed
(TE) Theory	1	Catalan	second semester	morning-mixed