

Laboratory Techniques and Field Work

Code: 104266
 ECTS Credits: 6

2025/2026

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

It is highly recommended to have completed and passed most of the compulsory Physical Geography subjects of the degree program.

To take this course, it is necessary to have a command of Catalan and/or Spanish at a level equal to or higher than B2.

Objectives and Contextualisation

- To acquire knowledge of the entire process involved in drafting a real technical project, from field data collection to final submission, including interaction with local stakeholders, data management, and GIS analysis.
- To provide a solid foundation in the analysis and drafting of territorial planning and management projects through the collection of real quantitative (field) and qualitative (stakeholder) data.
- To offer students practical experience in the analysis and preparation of a Forest Management Plan, enabling them to work in interdisciplinary teams within the fields of geographic analysis, planning, and territorial management.
- To acquire tools for effective planning and collaboration in team settings, as well as for proper time and task management leading up to the final project presentation.
- To develop critical thinking skills and the ability to make informed decisions in territorial management.
- To consolidate basic GIS knowledge and tools for the analysis and drafting of territorial projects.
- The most important goal of this course is to enjoy the learning process.

Learning Outcomes

1. CM25 (Competence) Carry out a basic research project introducing qualitative methodologies: defining the problem, selecting the method, collecting information, and analysing the material using coding systems and internal analysis.
2. CM26 (Competence) Interpret the statistical results obtained in a study through data analysis in order to make judgements that include a reflection on relevant social, scientific or ethical issues.
3. KM40 (Knowledge) Introduce the main sources of scientific information and documentation related to territorial and environmental processes in a study.

4. SM33 (Skill) Correctly apply basic and multivariate statistical methods in a practical case.
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Content

- Overview of the current state and use of forests
- Ruralism and the needs of mountain territories
- Forest evolution: natural state and social state
- Forests and climate change
- Principles of sustainable forest management
- Forest inventory: current forest condition, ownership and protection regime, nature, legal status, probable evolution, and productive capacity of all types of forest goods
- Field data collection and synchronization with the GIS project
- Planning of wildfire prevention measures in public forests
- Use of measurement instruments for forest inventory: height, density, age, diameter, growth, etc.
- Knowledge and identification of the main tree, shrub, herbaceous, and fauna species in forest and silvopastoral ecosystems
- Compatibility of uses in a forest: grazing, timber production, biomass, public use, communal use, biodiversity management
- GIS analysis and cartographic representation
- Work with georeferenced databases
- Graphical representation of the results of proposed actions

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
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Type: Directed			
Field trip (PCAM)	17	0.68	
GIS practices (PLAB)	12	0.48	
Laboratory work (PLAB)	13	0.52	
Theoretical sessions (TE)	8	0.32	
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Type: Supervised			
Doing the Forest Management Project	15	0.6	
Use of forestry measurement instruments	10	0.4	
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Type: Autonomous			
Field trip preparation	20	0.8	
POF writing and delivery	35	1.4	
Preparation and participation in discussions	20	0.8	

The aim of this course is to learn how to draft a Forest Management Plan (POF) from scratch, which can be applied to any other territorial project in which geographers may participate as part of multidisciplinary teams.

To draft the POF, a wide range of tasks will be carried out throughout the course, enabling students to acquire knowledge in searching for and processing information through various means.

The initial information search will focus on digital sources (legal and natural status of the forest), as well as written bibliography. GIS analysis will be a key component of the course, and practical and functional aspects will be reviewed to obtain results for the POF. GIS tools will be used to prepare for fieldwork prior to the forest inventory session, to calculate areas and perform required analyses for the final PDF document, and to graphically present the results of the POF.

Fieldwork will provide hands-on experience with forest inventory instruments, core extraction for tree age calculation, and the assessment of potential actions (livestock, production, public use, and biodiversity) in each forest area.

Throughout the process, students will need to listen to the demands of various stakeholders involved in forest use and management-such as rural agents, Natural Park staff, livestock farmers, and forest owners-and integrate them into the proposed actions as part of the technical team drafting the POF.

As the drafting team, students will be expected to make coherent and feasible proposals for new actions and infrastructures, based on the knowledge acquired and their ability to assess and interpret both quantitative and qualitative information.

The entire drafting process of the POF will be evaluated through periodic submissions during the course, as well as punctual assignments and the final oral presentation of the project, including the students' own forest management proposal for the next 10 and 20 years.

From the list of recommended readings (available in the course guide and at the beginning of the term), students will deliver individual presentations at the start of each optional and assessable session.

Teaching Methodologies Used

- Lectures
- Classroom practicals
- Debates
- Oral presentations of projects
- Tutorials
- Field trips: dasometry and measurement practices using forest instruments (2 days in the Virós Forest, Pallars Sobirà)
- Project development
- Article reading
- Laboratory practicals

During field trips, the Faculty's Field Trip Protocol will be applied. Students will have access to specific documentation on safety for activities conducted outside the UAB campus, which they must read and accept.

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
Drafting of the Forest Management Project	30%	0	0	CM25, CM26, KM40, SM33
Laboratory practice and GIS	10%	0	0	CM26, SM33
Oral presentation POF and discussions	30%	0	0	CM25, CM26, KM40
Partial deliveries of results and mapping	30%	0	0	CM25, CM26, KM40, SM33

The evaluation of this course will be based on the following components:

- Final submission of the Forest Management Plan (POF) document (30%)
- Partial submissions of the final document throughout the course, individually assessed (30%)
- Assessment of preparation and participation in debates and oral presentations of the assigned readings (30%)
- Assessed laboratory and GIS practical (10%)

Grade Review

At the time of each assessment activity, the teaching staff will inform students (via Moodle) of the procedure and date for grade review.

Resits

To be eligible for resits, students must have been previously assessed in activities that account for at least two-thirds of the total grade.

Partial submissions, oral presentations, and participation in debates are not eligible for resits. The laboratory and GIS practical and the final POF submission may be resubmitted.

Assessment activities in which irregularities are detected are not eligible for resits.

Non-assessable Students

Students will receive a "non-assessable" grade if they have not submitted more than 30% of the assessment activities.

If an assessment activity is not completed, the grade will be 0, it will not be eligible for resit, and it will be included in the weighted average.

Field trips and laboratory sessions are mandatory. Failure to attend either will result in a "non-assessable" grade.

Plagiarism or Fraudulent Conduct

If a student commits any irregularity that may significantly affect the grade of an assessment activity, that activity will be graded with a 0, regardless of any disciplinary action that may follow. If multiple irregularities are detected in the same course, the final grade will be 0.

Use of Artificial Intelligence

In this course, the use of Artificial Intelligence technologies is permitted exclusively for bibliographic or information searches. Students must clearly identify which parts were generated using AI, specify the tools used, and include a critical reflection on how these tools influenced the process and final outcome of the

activity. Lack of transparency in the use of AI will be considered academic dishonesty and may result in partial or full penalties on the activity grade, or more severe sanctions in serious cases.

Single Assessment

This course does not offer a single assessment option.

Bibliography

On forests and management

González Molina, José M., Míriam Piqué Nicolau, and Pau Vericat Grau. *Manual de ordenación por rodales: Gestión multifuncional de los espacios forestales*. Ediciones Mundi-Prensa, 2007.

Boada, Martí, and Francisco Javier Gómez. *Boscos de Catalunya*. Lunwerg, 2013.

Bonet, José Antonio, et al. *Manual de ordenación por rodales: Gestión multifuncional de los espacios forestales*. Ediciones Mundi-Prensa, 2007

Rivas Martínez, Santiago, coordinator. *Los bosques ibéricos: Una interpretación geobotánica*. Planeta, 2004

Lloret, Francisco. *La muerte de los bosques*. Arpa Editores, 2021.

On rural studies

Arrels. *El món que torna*. Dir. Josep Sucarrats; Som (Cooperativa), 2020-. Revista trimestral.

Freixa Riba, Vanesa. *Ruralisme*. Ara Llibres, 2022.

Ravera, Federica. *Dones de la muntanya*. Pol·len Edicions, 2022.

Digital papers

- Membrive, Rosa et al. *El papel del pastoreo en la reducción de la carga de combustible en los bosques de la Vall d'Alinyà*. N.p., 2014. Print.
- Doblas Miranda, Enrique et al. *Conservar aprovechando: cómo integrar el cambio global en la gestión de los montes españoles*. Bellaterra Centre de Recerca Ecològica i Aplicacions Forestals, 2013. Print. https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/ alma991010387689806709
- Vila Subirós, Josep, and Josep Gordi i Serrat. "La geografia i l'estudi dels boscos a Espanya." (2001): n. pag. Print. https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/ alma991010392105306709
- Blanco, Juan A. *Usando la biomasa forestal como una fuente de energía sostenible* / Juan A. Blanco (coord.). Pamplona: Universidad Pública de Navarra, 2016. Print. https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/ alma991010518755806709
- Chuvieco Salinero, Emilio., and María del Pilar Marfín Isabel. *Nuevas tecnologías para la estimación del riesgo de incendios forestales* Editado por Emilio Chuvieco Salinero, María del Pilar Marfín Isabel. Madrid: Consejo Superior de Investigaciones Científicas, 2004. Print. https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/ alma991010511733506709

Software

- QSIG
- Office
- App Qfield
- App Catalunya offline
- App IGN
- Adobe creator reader
- SIG Miramon

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
(PCAM) Field practices	1	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	1	Catalan	second semester	morning-mixed
(TE) Theory	1	Catalan	second semester	morning-mixed