Universitat Autònoma de Barcelona

2023/2024

Laboratory Techniques and Field Work

Code: 104266
ECTS Credits: 6

Degree	Type	Year	Semester
2503710 Geography, Environmental Management and Spatial Planning	OT	4	0

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject.
Please note that this information is provisional until 30 November 2023.

Teachers

Anna Pou Calzada

Prerequisites

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

Objectives and Contextualisation

- To gain knowledge of the entire process of drafting a real technical project, from the collection of field data to the final delivery, including interaction with stakeholders in the territory, data management and GIS analysis.
- To provide a solid base in the analysis and drafting of territorial planning and management projects through the collection of real quantitative data (in the field) and qualitative data (agents involved in the territory).
- To provide practical experience in the analysis and preparation of a Forest Management Project that will enable students to work in interdisciplinary teams in the fields of geographical analysis, planning and land management.
- Acquire tools to plan and collaborate effectively in work teams and to manage time and tasks correctly until the final presentation of the project.
- Develop critical thinking skills and achieve decision-making capacity in territorial management.
- To consolidate knowledge and basic GIS tools for the analysis and drafting of territorial projects.
- The most important objective of this course is to have fun learning.

Competences

- Apply methods and techniques of quantitative, qualitative and field work analysis in the interpretation of territorial and environmental processes.
- Combine distinct techniques and methods of representation and spatial analysis in elaborating materials for transmitting results.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.

Learning Outcomes

1. Combine distinct techniques and methods of representation and spatial analysis in elaborating materials for transmitting results.
2. Interpret the statistical result of data analysis.
3. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
4. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
5. Understand the main sources of information and scientific documentation related to regional and environmental processes.

Content

- Approximation to the status and use of current forests
- Ruralism and needs of mountain territories
- Forest evolution, natural status and social status
- Forests and climate change
- Principles of sustainable forest management
- Forest inventory: Current situation of the forest, ownership and protection status, nature, legal status, probable evolution and productive capacity of all types of forest goods.
- Collection of field data and synchronization with GIS project
- Planning of fire prevention measures in public forests
- Use of measurement tools for forest inventory: height, density, age, diameter, growth, etc.
- Knowledge and identification of the main tree, shrub, herbaceous and fauna species of the forest and silvopastoral ecosystem.
- Compatibility of uses in a forest: pastures, wood production, biomass, public use, community use, biodiversity management.
- GIS analysis and cartographic representation
- Work with geo-referenced databases
- Graphical representation of the results of the proposed actions

Methodology

The purpose of this course is to learn how to write a Forest Management Project from scratch, extrapolating to any other territorial project in which as geographer/s can participate as part of multidisciplinary teams.

For the drafting of the POF, a wide range of tasks must be carried out throughout the drafting process, which will allow you to acquire the knowledge of searching for and processing information by different means.
The search for basic information will be firstly in the digital field (legal status and natural state of the forest),

and also in written bibliography. GIS analysis will become an important part of the course and we will review practical and functional aspects to obtain results for the drafting of the POF. GIS tools will be used for the preparation of the field work prior to the forest inventory session, for the calculation of areas and analysis required in the final pdf document and for the graphic presentation of the FOP results.
The field work will allow you to learn about the technical tools of forest inventory, the extraction of coras for the calculation of the age of each tree and the assessment of possible actions (livestock, production, public use and biodiversity) in each area of the forest that you will know.
During the process, it will have to listen to the demands of the different agents involved in the use and management of the forest, such as rural agents, the technical staff of the Natural Park, livestock farmers, forest owners, and integrate them into the actions proposed by the technical team in the POF.
As a drafting team, they will have to make coherent and viable proposals for new actions and infrastructures according to the knowledge acquired and the capacity to discern and make judgments on the quantitative and qualitative information they have gathered.
The whole process of drafting the POF will be evaluated with deliveries throughout the course, as well as the delivery of specific tasks and the final oral presentation of the project with its own proposal for forest management for the next 10 and 20 years.

Teaching methodologies used in the degree course

- Lectures
- Classroom practices
- Discussions
- Oral presentation of papers
- Tutorials
- Field trips: Dasometry and practical measurements with forestry instruments.
- Elaboration of work
- Reading of articles
- Laboratory practices

Evaluation activities used in the degree program

- Classroom practices
- Field trip reports
- Submission of reports/assignments
- Attendance and active participation in class
- Oral presentation of work/s

The methodology of this subject is practical. The field techniques at the field trip and the laboratory techniques in the realization of the protocols will be explained.

At the beginning of the course, the teacher will explain the protocol of measures and good practices for field trips.

"15 minutes of a class will be set aside, within the schedule established by the center/degree, for students to fill in surveys to evaluate the performance of the teaching staff and to evaluate the subject"

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			

Field trip	20	0.8	1, 5, 2, 4, 3
GIS practices	10	0.4	1, 5
Laboratory work	12	0.48	1, 5
Theoretycal sessions	8	0.32	1, 5, 2, 4, 3
Type: Supervised			
Use of forestry measurement instruments	10	0.4	
Type: Autonomous			
Field tryp preparation	15	0.6	
POF writing and delivery	20	0.8	1, 5, 2, 4, 3
Preparation and participation in discussions	15	0.6	4, 3

Assessment

- The evaluation of this subject will be based on the delivery of a Forest Management Project document.
- Partial deliveries of the final document will be made throughout the course and will be evaluated individually.
- The preparation and participation in the debates will be evaluated.
- There is no exam
- Not evaluable implies the non-attendance to the field trip and the laboratory practices.

This subject does not incorporate single assessment.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Drafting of the Forest Management Project	50%	20	0.8	1, 5, 2, 4, 3
Oral presentation POF and discussions	20%	10	0.4	1, 4, 3
Partial deliveries of results and mapping	30%	10	0.4	1, 5, 2, 3

Bibliography

Sobre el món rural:

- Revista Arrels
- RURALISME (edición en catalán) VANESA FREIXA RIBA ARA LLIBRES - 9788418928888
- DONES DE LA MUNTANYA (edición en catalán) FEDERICA RAVERA POL·LEN EDICIONS - 9788418580635

Sobre boscos i gestió:

- MANUAL DE ORDENACIÓN POR RODALESGestión multifuncional de los espacios forestales JOSE Mª GONZALEZ MOLINA, MIRIAM PIQUÉ NICOLAU, PAU VERICAT GRAU

- BOSCOS DE CATALUNYA (edición en catalán) MARTI BOADA, FRANCISCO JAVIER GOMEZ LUNWERG - 9788497859318
- MANUAL DE ORDENACIÓN POR RODALES. GESTIÓN MULTIFUNCIONAL DE LOS ESPACIOS FORESTALES ISBN: 84-8014-789-X- ISBN 13: 9788480147897
- Los bosques ibéricos, Una interpretacion geobotánica- 9788408058205

Articles digitals

- 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 Martín Isabel. Nuevas tecnologías para la estimación del riesgo de incendios forestales Editado por Emilio Chuvieco Salinero, María del Pilar Martín Isabel. Madrid: Consejo Superior de Investigaciones Científicas, 2004. Print. https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/alma991010511733506709

Software

Ús de programari:

-QSIG

-paquet office (lliure) calc i writter

-App Qfield

-App Catalunya offline

-App IGN

-Adobe creator reader

-SIG Miramon