



Universitat de Lleida

DEGREE CURRICULUM
WILDLIFE MANAGEMENT

Coordination: NADAL GARCIA, JESUS

Academic year 2022-23

Subject's general information

| | | | | |
|---|---|---------------|------------------|------------------|
| Subject name | WILDLIFE MANAGEMENT | | | |
| Code | 102432 | | | |
| Semester | 1st Q(SEMESTER) CONTINUED EVALUATION | | | |
| Typology | Degree | Course | Character | Modality |
| | Bachelor's Degree in Forest Engineering | 3 | COMPULSORY | Attendance-based |
| | Double degree: Bachelor's degree in Forest Engineering and Bachelor's degree in Nature Conservation | 3 | COMPULSORY | Attendance-based |
| Course number of credits (ECTS) | 6 | | | |
| Type of activity, credits, and groups | Activity type | PRALAB | PRAULA | TEORIA |
| | Number of credits | 1 | 2 | 3 |
| | Number of groups | 3 | 1 | 1 |
| Coordination | NADAL GARCIA, JESUS | | | |
| Department | ANIMAL SCIENCE | | | |
| Important information on data processing | Consult this link for more information. | | | |
| Language | Català: 50% Castellà: 50% | | | |

| Teaching staff | E-mail addresses | Credits taught by teacher | Office and hour of attention |
|------------------------|-------------------------|---------------------------|------------------------------|
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Subject's extra information

Teaching guide of "Wildlife Management"

Wildlife and its habitats. The sustainable use of wild animal populations. Diagnostics on populations and habitats. Measures to conserve and recover populations and their habitats.

Requirements

Prerequisites: Ecology, Plant Ecophysiology and Forest Zoology.

Recommendations

Material for field trips: wildlife identification guides and binoculars

Learning objectives

Goals

1. Identify the impacts of human activity on wildlife and their habitats
2. Analyze and diagnose wildlife populations and their habitats
3. Elaborate hunting and fish management plans
4. Develop wildlife conservation projects and their habitats

Competences

Competencies

General skills

CB1. That students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge from the cutting edge of your field of study

CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature

CB4. That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences

CB5. That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

CG1. Ability to understand the biological, chemical, physical, mathematical foundations and the representation systems necessary for the development of professional activity, as well as to identify the different biotic and physical elements of the forest environment and renewable natural resources susceptible to protection, conservation and exploitation in the forestry field.

CG2. Ability to analyze the ecological structure and function of forest systems and resources, including landscapes.

CG3. Knowledge of the degradation processes that affect forest systems and resources (pollution, pests and diseases, fires, etc.) and ability to use the techniques of protection of the forest environment, of forest hydrological restoration and of biodiversity conservation .

CG4. Ability to evaluate and correct the environmental impact, as well as apply environmental auditing and management techniques.

CG6. Ability to measure, inventory and evaluate forest resources, apply and develop silvicultural techniques and management of all types of forest systems, parks and recreational areas, as well as techniques for the use of timber and non-timber forest products.

CG7. Ability to solve technical problems derived from the management of natural spaces.

CG8. Ability to manage and protect populations of forest fauna, with special emphasis on those of a hunting and fish farming nature.

CG12. Ability to organize and plan companies and other institutions, with knowledge of the legislative provisions that affect them and the fundamentals of marketing and commercialization of forest products.

CG13. Ability to design, direct, prepare, implement and interpret projects and plans, as well as to write technical reports, recognition reports, evaluations, expert opinions and appraisals.

CG14. Ability to understand, interpret and adopt scientific advances in the forestry field, to develop and transfer technology and to work in a multilingual and multidisciplinary environment.

CT1. Correction in oral and written expression

CT3. Mastery of Information and Communication Technologies

CT4. Respect for the fundamental rights of equality between men and women, the promotion of Human Rights and the values of a culture of peace and democratic values

CT5. Apply the gender perspective to the functions of the professional field

CEFB6. Basic knowledge of geology and morphology of the terrain and its application in problems related to engineering. Climatology.

CEMC1. Ability to know, understand and use the principles of Forest Botany.

CEMC2. Ability to know, understand and use the principles of Forest Zoology and Entomology
CEMC4. Ability to know, understand and use the principles of Forest Ecology.

CEMC17. Ability to know, understand and use the principles of Methodology, organization and project management

CEEF7. Ability to know, understand and use the principles of Hunting and Fishing Management. Riparian Systems.

CEEF11. Ability to know, understand and use the principles of Recovery of Degraded Spaces.

Specific competences

1. Know the European, state and regional legislation on wildlife.
2. Master the techniques of hunting and fish farming management.
3. Understand wildlife management strategies and their habitats.
4. Ability to recover populations and their habitats.
5. Ability to develop conservation techniques for fauna and habitats.

Subject contents

Temary

1. Species and Legislation

Biodiversity: Concept and importance. Categorization of the conservation status of the species. Vertebrate threatened from Spain. Legislation related to fauna: Main directives of the European Union, state and autonomous legislation.

2. Aquatic Ecosystems

Type of aquatic ecosystems and distribution. Rivers: hydrological and physicochemical characteristics.

3. Aquatic Ecosystems

Biological communities: The riparian forest, macrophyte algae communities, and aquatic macroinvertebrates.

4. Fish communities

Ichthyofauna Iberian: Species and fluvial regions. Zonation of the fish communities. Fish communities Regulation of fish communities: biotic and abiotic factors.

5. Technical plans for fish management

Management of continental fisheries. Effects of fishing on communities. Fish farms and repopulations.

6. Rivers Management

Methods of evaluation of the state of the rivers. Restoration Measures. Stairs and steps of fish.

7. Terrestrial Ecosystems

Biomes and biogeographic regions. Organization and production in different ecosystems.

8. Dynamics of animal populations

The abundance, its fluctuations and the relation with the habitat. Annual and interannual cycles.

9. Regulation of animal populations

Factors that regulate the size of the population. Models of regulation of the size of the population.

10. Census of animal populations

Methods of quantifying the abundance of wild fauna. Census design and objectives. Analysis and interpretation of the data.

11. Extractions of the Animal Populations

The population surpluses and their use. The maximum-sustainable catches. Harvesting strategies.

12. Forest management and animal populations

Impacts of silviculture, harvesting and forest management on wildlife. The ecocompatibility of forestry operations. The conservation of the forest.

Practical activities

Laboratory practices

1. Determination of aquatic macroinvertebrates. Use of biological indexes
2. Study of continental fishes
3. Bird study techniques
4. Mammalian study techniques

Field practices

1. Techniques of work in a river
2. Management of a hunting ground

Methodology

Methodology

| Type of activity | Description | Presential training | | Distance training | | | Total time |
|---------------------------|----------------------------|----------------------------------|-------|---|-------|-------------------|------------|
| | | Objectives | Hours | Student work | Hours | Teacher | Hours |
| Master lesson | Topic 1-5 | Explanation of the main concepts | 10 | knowing, understanding and synthesizing knowledge | 10 | Dr. Casals | 20h/2 |
| Problems and cases | Topic 1-5 | Resolution of cases | 6 | Learning to solve problems and cases | 6 | Dr. Casals | 12h/1.2 |
| Master lesson | Topic: 7-10 | Explanation of the main concepts | 8 | knowing, understanding and synthesizing knowledge | 8 | Dr. Nadal | 16h/1.6 |
| Problems and cases | Topic: 7-10 | Resolution of cases | 4 | Learning to solve problems and cases | 4 | Dr. Nadal | 8h/0.8 |
| Laboratory | Laboratory practice: 1 i 2 | Understand and identify | 4 | Report | 4 | Dr. Casals | 8h/0.8 |
| Laboratory | Laboratory practice: 3 i 4 | Understand and identify | 4 | Report | 4 | Dr. Nadal | 8h/0.8 |
| Informatics | Topic: 5 | Applied learning and execution | 4 | Report | 4 | Dr. Nadal | 8h/0.8 |

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|----------------------------|--|--|-----------|--|-----------|---------------------------------|----------------|
| Field prac tice | Field prac tice: 1 | Understand and identify | 6 | Report | 6 | Dr. Casals | 12h/1.2 |
| Field prac tice | Field prac tice: 2 | Understand and identify | 6 | Report | 6 | Dr. Nadal | 12h/1.2 |
| Directed activities | Student's work in groups of 6 students | Guiding the student at work (during tutorials) | 8 | Results of the inventory and ecological characterization | 38 | Dr. Casals Dr. Nadal | 46h/4.6 |
| Totals | | | 60 | | 90 | | 150h/6 |

Observations

The different sessions of exposure, case resolution, computer practices, laboratory practices and field practices, are developed in large group, medium group (24 students) and small group (3 students). Students have to support both their individual work and their group work, achieving the objectives. Both the individual work and the group work of the student count for each student in face to face and distance training.

Observaciones

Las distintas clases de exposición, resolución de casos, prácticas informáticas, prácticas de laboratorio y prácticas de campo, se desarrollan en grupo grande, grupo mediano (24 alumnos) y grupo pequeño (3 alumnos). Los estudiantes tienen que apoyar tanto con su trabajo individual como con su trabajo en grupo, la consecución de los objetivos. Ambos el trabajo individual como el trabajo grupal del alumno se contabilizan para cada estudiante en las actividades presenciales y no presenciales.

Evaluation

Evaluation system

| Activity | Evaluation activity | | Mark |
|---------------------|---|--------|------|
| | Process | Number | (%) |
| Master lesson | Written tests on the content of the subject | 2 | 40% |
| Laboratory | Assistance and participation | 4 | 10% |
| Field | Assistance and participation | 2 | 10% |
| Directed activities | Oral presentation | 1 | 40% |
| Total | | | 100 |

Observations

The written test is to demonstrate that you know, understand and know how to synthesize the concepts and subjects of the program.

The group work poses and solves a problem of wildlife management, which is evaluated with a defense and public exposure of the case studied.

The lack of understanding of the basic concepts implies that the evaluation process has not been passed.

Bibliography

Bibliography

Angelici, & Rossi, L. 2020. Problematic Wildlife II: New Conservation and Management Challenges in the Human-Wildlife Interactions. Springer International Publishing AG.

Allinson, Jobson, B., Crave, O., Lammerant, O., Bossche, W. van den, & Badoz, L. 2020. The wildlife sensitivity mapping manual: practical guidance for renewable energy planning in the European Union. Publications Office.

Ballesteros, F. 1998. Las especies de caza en España: biología, ecología y conservación. Babel.

Begon M.; Harper, J.L.& Townsend C.R. 1999. Ecología: individuos, poblaciones y comunidades. Omega.

Calow, P. & Petts, G. 1992. The Rivers Handbook: hydrological and ecological principles. Wiley.

Carrasco Casaut, Bueno Padilla, I., Paniagua Risueño, J., Carrasco Casaut, M., & Paniagua Risueño, J. 2019. Manejo de fauna silvestre en centros de recuperación. UCO Press, Universidad de Córdoba.

Cowx, I. & Welcomme, R. 1998. Rehabilitation of rivers for fish. FAO.

Durantel, P. 1993. Nuevo manual de la caza. Planeta.

- Folch, R. (editor). Història natural dels Països Catalans. Volumes diversos. Enciclopèdia Catalana.
- Granado, C. 1996. Ecología de peces. Universidad de Sevilla
- Kerétaro. 2015. Libro Blanco de la Caza Sostenible: el sector cinegético en el siglo XXI. Tébar.
- Navas Cuenca. 2018. Gestión de caza y pesca (2a. ed.). (Segunda edición.). ICB.
- Ordeix, M.; Solà, C; Bardina, M; Casamitjana, A i Munné, A (editors). 2014. Els peixos dels rius i les zones humides de Catalunya. Qualitat biològica i connectivitat fluvial. Agència Catalana de l'Aigua.
- Pianka, Eric R. 1999. Ecología evolutiva. Omega.
- Primack, & Ros, J. 2002. Introducción a la biología de la conservación. Ariel.
- Sáenz de Buruaga, M.; Lucio, A. J. & Purroy, F. J. 1991. Reconocimiento de sexo y edad en especies cinegéticas. Diputación Foral de Álava.
- Sina, Gerstetter, C., Porsch, L., Roberts, E., Smith, L. O., Klaas, K., & Fajardo de Castillo, T. 2016. Wildlife crime. European Parliament.
- Silvy. 2012. The Wildlife techniques manual (7th ed.). Johns Hopkins University Press.
- Welcomme, R. 2001. Inland fisheries: ecology and management. Wiley.