INSTITUTO POLITÉCNICO DE BRAGANÇA

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| Course Unit | Ecology and Management of Wildlife | | | Field of study | Environmental Sciences | | |
| Bachelor in | Environmental Engineering | | | School | School of Agriculture | | |
| Academic Year | 2022/2023 | Year of study | 2 | Level | 1-2 | ECTS credits | 6.0 |
| Type | Semestral | Semester | 2 | Code | 9099-309-2201-00-22 | | |

| Workload (hours) | 162 | Contact hours | T | TP | PL | TC | S | E | OT | O |
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| | | | 30 | - | 30 | - | - | - | 20 | - |

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s): José Paulo Mendes Guerra Marques Cortez

## Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. - to know biology and ecology of terrestrial fauna
2. - to recognize characteristics of habitats and identify the importance of habitat structure on wildlife-habitat interactions
3. - assess wildlife species and wild populations dynamics using field and lab techniques
4. - Interpret information associated with collected population parameters, present diagnoses and management strategies
5. - understand the effects of disturbances on wildlife populations and on ecosystem dynamics and be able to develope action strategies for wild populations

## Prerequisites

Before the course unit the learner is expected to be able to:
Biology

## Course contents

Ecology, fauna and ecosystem characteristics. Wildlife-habitat relationships. Habitat improvement techniques. Interactions among individuals and populations. Animal behaviour in natural and non-natural ecosystems. Wildlife management techniques. Effect of disturbances on wildlife. Ordinances and management principles for wild populations.

## Course contents (extended version)

1. Ecology
   - Basic concepts in ecology
   - Organisms in terrestrial environments
   - Conditions, resources and wildlife distribution
   - Wildlife values
2. Wildlife-habitat relationships
   - Importance of habitat quality and resource availability for different kinds of fauna
   - Habitat evaluation - How to quantify an habitat
   - Habitat analysis - Food and Cover
   - Habitat selection
   - Ecological succession and fauna
3. Interactions between animals
   - Identification of animal species
   - European types of fauna
   - Introduction to animal behaviour
   - Migratory and dispersal movements in wildlife
   - Wild vertebrates population dynamics
   - Population structure - Density - Reproduction and mortality
   - Population growth models
   - Metapopulation concepts
4. Carrying capacity
   - Types of carrying capacity
5. Disturbance effects on wildlife populations
   - Fire and habitat fragmentation
   - Disturbance frequence and wildlife populations
6. Principles of wildlife management
   - Artificial control of animal abundance
   - Wildlife exploitation

## Recommended reading


1. Bailey JA. (1982). Principles of Wildlife Management. John Willey & Sons. New York
2. Morrison ML, Marcot BG and Mannan, RW. (1992). Wildlife-Habitat Relationships. Concepts & Applications. The University of Wisconsin Press
3. Sutherland, WJ and Hill, D. A. (Eds. ). (1995). Managing Habitats for Conservation Cambridge University
4. Silvy, N. J., & Wildlife Society. (2020). The wildlife techniques manual (8th ed.). Vol I e II. Johns Hopkins University Press
5. Sinclair A, Fryxell J and Caughley G (Eds. ). (2005). Wildlife Ecology, Conservation and Management. 2nd Ed. Blackwell Science Press


## Teaching and learning methods

Lecture sessions with multimedia resources, tutorial classes and practice based on group works on field and lab.

## Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary)
   - Final Written Exam - 60%
   - Intermediate Written Test - 40%
2. Alternative 2 - (Regular, Student Worker) (Final, Supplementary)
3. Alternative 3 - (Student Worker) (Special)

## Language of instruction

Portuguese, with additional English support for foreign students.

## Electronic validation

| José Paulo Mendes Guerra Marques Cortez | Amilcar António Teiga Teixeira | Artur Jorge de Jesus Gonçalves | Maria Sameiro Ferreira Patrício |
|---|---|---|---|
| 21-12-2022 | 21-12-2022 | 22-12-2022 | 22-12-2022 |