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	30	TP	-	PL	30	TC	-	S	-	E	-	OT	20	O	-

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