UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

BEHAVIORAL ECOLOGY

Enrollment year	2021/2022
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/05 (ZOOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	EXPERIMENTAL AND APPLIED BIOLOGY
Curriculum	Biologia ambientale e biodiversità
Year of study	1°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	GAZZOLA ANDREA (titolare) - 6 ECTS
Prerequisites	Knowledge of basic concepts of evolutionary biology and ecology. Knowledge of the English language is useful to approach the original sources
Learning outcomes	The student will acquire knowledge of the role of animal behavior under an eco-evolutionary perspective; knowledge of the appropriate scientific terminology of the discipline; the ability to understand and critically discuss the main topics of behavioral ecology reported in the specialist scientific literature
Course contents	The course provides the theoretical and experimental basis to the study of animal behavior starting from the genetic and physiological mechanisms of behavior in relation to environmental factors and natural selection. Bases of behavior: History of Ethology, Schools of thought

	and basic concepts. Genes and behavior. Natural selection and adaptive behaviors. Optimality. Learning and experience. Nervous system and behavior. Hormones and behavior. Development of behavior. Individual behavior: Biological clocks. Orientation and Migration. Foraging and predation. Anti-predator behavior. Habitat selection. Reproduction and sexual selection: Evolution of sex, Mate choice, Sperm competition, Cryptic female choice, Differential allocation. Parental care and Reproductive systems. Social behavior: Group life, Philopatry, Territoriality. Communications and Signals: Evolution, Ritualisation, Functions, Language, Animals dialects. Altruism, Cooperation and Eusociality: Inclusive Fitness, Kin selection, Reciprocal altruism, Manipulation.
Teaching methods	Frontal lessons and seminars
Reccomended or required readings	Perspective on Animal Behavior - J Goodenough, B. McGuire, R.A. Wallace - Wiley, New York. Animal Behavior - D. Rubenstein and J Alcock (2019). An introduction to Behavioural Ecology (2012) - N. Davies, J. Krebs, S. West
Assessment methods	The exam consists of an individual oral exam, aimed at ascertaining the skills acquired
Further information	Frequency is highly recommended.
Sustainable development goals - Agenda 2030	The goals