UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

APPLIED ZOOLOGY

Enrollment year	2019/2020
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/05 (ZOOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	3°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	GOMULSKI LUDVIK MARCUS (titolare) - 6 ECTS
Prerequisites	Students on this course are required to possess or acquire adequate initial preparation on the following knowledge: General Zoology, Biology.
Learning outcomes	To know and understand applicative aspects of zoology, in particular of insects of sanitary, veterinary and agricultural importance
Course contents	The course aims to provide an overview of the current applied issues in the field of zoology. Particular attention will be placed on insects of sanitary, veterinary and agricultural importance. It will be shown that, only by integrating ecological, behavioural and biotechnological methods and knowledge, we can derive information useful for monitoring and control of pest species. introduction

	The integument The head, mouthparts and adaptations to the type of diet The thorax and flight The abdomen The nervous system, the endocrine system and the circulatory system The respiratory system Digestion and the excretory system. The organs of reproduction Vision; Perception of tactile stimuli Sound production and thermoreception Thermoregulation and Chemoreception Pheromones and semiochemicals Bioluminescence and Reproduction Sexual Selection and Wedding Gifts Sperm competition; Reproductive strategies: oviparity Reproductive strategies: viviparity; Atypical reproductive modes: parthenogenesis, pedogenesis, neoteny, hermaphroditism and polyembryony Development and biological cycles Metamorphosis and the moult Tolerance to cold, heat and arid conditions. Age estimation Medical and Veterinary Entomology; Malaria Medical and Veterinary Entomology; Arbovirus, Typhus, Plague, Chagas disease, Trypanosomiasis Forensic entomology; Control of harmful species: chemical control Control of harmful species: biological control, conservation, natural enemies, microbes, fungi, bacteria, viruses Control of harmful species: pheromones and other attractive substances for monitoring, attraction-destruction, recall and killing and disturbance of mating; Sterile Insect Technique
Teaching methods	Lessons

Reccomended or required readings	Materials and articles provided during the course. The Insects: an Outline of Entomology. Gullan PJ & Cranston PS (2014). 5th Edition. Wiley Blackwell.
Assessment methods	The exam consists of a written exam, aimed at ascertaining the skills acquired in relation to the course contents. The exam focuses on at least four distinct topics relating covered during the course. The final assessment is based on the degree of depth and understanding of the topics presented and on the ability to integrate the knowledge acquired during the course.
Further information	The exam consists of a written exam, aimed at ascertaining the skills acquired in relation to the course contents. The exam focuses on at least four distinct topics relating covered during the course. The final assessment is based on the degree of depth and understanding of the topics presented and on the ability to integrate the knowledge acquired during the course.
Sustainable development goals - Agenda 2030	15 Life on Land The goals