UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

PARASITE AND SYMBIOTIC ASSOCIATIONS

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	VET/06 (PARASITOLOGY AND PARASITIC ANIMAL DISEASES)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	EXPERIMENTAL AND APPLIED BIOLOGY
Curriculum	Biologia ambientale e biodiversità
Year of study	2°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	6
Lesson hours	52 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	SASSERA DAVIDE (titolare) - 6 ECTS
Prerequisites	Basic knowledge of zoology, immunology, ecology, molecular biology, evolution, diagnostic methods
Learning outcomes	The course has the first objective to provide students with a general knowledge of biological interactions, declining them from different points of view: ecological, evolutionary, medical. The main objective of the course is then to provide the students with an in-depth knowledge of the most important parasitic diseases, as models to give a general picture of the discipline and to learn the main principles of parasitological diagnostics.
Course contents	The first part of the course will introduce the basic concepts of parasitology with a focus on the main etiopathogenetic mechanisms. The endosymbiotic theory, the host/parasite relationships and the evolution of parasitism will then be discussed. The central part of the

	course will describe the main parasitic diseases caused by arthropod-borne protozoa (Genera: Leishmania, Tripanosoma, Plasmodium, etc.) and by oro-fecal transmitted protozoa (amoebae, flagellates of the digestive and urinary tracts, ciliates). The diseases caused by flatworms will be described, with a specific focus on Fasciola, Schistosoma, Diphyllobotrium, Taenia and Echinococcus. Furthermore, the main species of human pathogenic roundworms will be described, such as Filarioidea and parasites of the genera Ascaris, Ancylostoma, Necator, Strongyloides, Trichinella, Toxocara and Enterobius. The final part of the course will be focused on the main species of arthropod parasites and vectors, discussing the potential applicative consequences of innovative integrated control approaches. The course will include practical laboratory sessions.
Teaching methods	The course will be structured mainly through lectures, supplemented by paractical labs where students will be able to get in touch with specific aspects of diagnostic and parasitological research, such as microscopic diagnosis, classification through dichotomous keys, advanced bioinformatics approaches for the study of symbiosis. Lab activities will be performed if sanitary condition will allow it.
Reccomended or required readings	Ivo de Carneri - Parassitologia Generale e Umana - Casa Editrice Ambrosiana Massimo Scaglia, Simonetta Gatti, Elio G. Rondanelli - Parassiti e parassitosi umane. Dalla clinica al laboratorio - Selecta Medica
Assessment methods	The exam is oral, with open questions aimed primarily at evaluating the knowledge on the basic concepts covered in the course, such as cycles of parasites, evolutionary, ecological and epidemiological aspects of parasitology. The student's ability to establish links between concepts and to elaborate them in reasoning questions will also be assessed.
Further information	The exam is oral, with open questions aimed primarily at evaluating the knowledge on the basic concepts covered in the course, such as cycles of parasites, evolutionary, ecological and epidemiological aspects of parasitology. The student's ability to establish links between concepts and to elaborate them in reasoning questions will also be assessed.
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile