

Teaching course: Parasitology and Mycology (4 CFU; 48 hours: 38 hours of frontal lectures and 10 (×4) hours of practical lectures)

Learning outcomes: At the end of the course the student acquires knowledge of basic principles, correct terminology, taxonomy, morphology, epidemiology, life cycle of the parasites and mycetes which are more common and important in Veterinary Medicine, with regard also to Public Health. The student is able to recognize parasites and mycetes through macroscopic and microscopic observations of slides and preparations.

Frontal lectures			
General subjects and acquired skills	Subjects	Specific subjects	Hours
<p>1. INTRODUCTION TO THE COURSE (TOT. 3 HOURS)</p> <p><i>To know the organization of the course and the final exam procedures. To acquire knowledge on fundamentals in veterinary parasitology</i></p>	Organization of the course	Presentation of contents and organization of the course, and of final exam procedures.	0.5
	Introduction to Parasitology	General concepts on parasitism. Definition of parasite and host. Essential terminology in parasitology. Notes of taxonomy and biology of parasites of interest in veterinary medicine. Host-parasite interactions and effects of parasites on the host. Routes of entry and exit of parasites. Importance of parasites for animal and Public health.	2.5
<p>2. MYCETES (TOT. 6 HOURS)</p> <p><i>To acquire knowledge on classification, morphology, physiology, biology, effects on the host and diagnosis of mycetes of major relevance in Veterinary Medicine and Public Health</i></p>	Overview of mycetes	Role of mycetes in nature. Morphology, physiology, propagation, reproduction and pathogenicity factors. Classification.	2
	Mycetes of major relevance in veterinary medicine	The dermatophytes. Mycetes of genus <i>Malassezia</i> , <i>Aspergillus</i> , <i>Cryptococcus</i> , <i>Candida</i> .	4
<p>3. PROTOZOANS (TOT. 9 HOURS)</p> <p><i>To acquire knowledge on classification, morphology, biology, effects on the host and diagnosis of parasites protozoans of major relevance in Veterinary Medicine and Public Health</i></p>	Overview of protozoans	Introduction to protozoan parasites of major veterinary importance.	0.5
	Flagellates, Ciliates and Amebae	Classification, morphology, life cycle, effects on the host and diagnosis of parasitic flagellates belonging to the genera <i>Giardia</i> , <i>Tritrichomonas</i> , <i>Histomonas</i> , <i>Trypanosoma</i> and <i>Leishmania</i> . Outline of morphology and biology of parasitic ciliates and free living and parasitic amoebae.	4
	Apicomplexa	Classification, morphology, life cycle, effects on the host and diagnosis of non-cyst-forming coccidia of the genera <i>Eimeria</i> , <i>Isospora</i> , <i>Cystoisospora</i> , <i>Cryptosporidium</i> , of cyst-forming coccidia of the genera <i>Toxoplasma</i> , <i>Neospora</i> and <i>Sarcocystis</i> , and of hemoprotozoans <i>Babesia</i> and <i>Theileria</i>).	4.5
<p>4. PLATYHELMINTHES (TOT. 8 ORE)</p> <p><i>To acquire knowledge on classification, morphology, biology, effects on the host</i></p>	Overview of Platyhelminthes	Introduction to Platyhelminthes (flatworms) of veterinary importance.	0.5

<p><i>and diagnosis of Platyhelminthes (flatworms) of major relevance in Veterinary Medicine and Public Health</i></p>	<p><i>Monogenea and Trematoda Digenea</i></p>	<p>Outline of morphology and biology of monogeneans. Classification, morphology, life cycle, effects on the host and diagnosis of digenean trematodes belonging to the families Fasciolidae, Dicrocoeliidae, Paramphistomidae, Opisthorchiidae, Schistosomatidae.</p>	<p>3.5</p>
	<p><i>Cestoda</i></p>	<p>Classification, morphology, life cycle, effects on the host and diagnosis of cestodes Diphylobothriidea (family Diphylobothriidae) and Cyclophyllidea (families Mesocestoididae, Anoplocephalidae, Dipilydiidae, Taeniidae).</p>	<p>4</p>
<p>5. NEMATODES (TOT. 7 HOURS)</p> <p><i>To acquire knowledge on classification, morphology, biology, effects on the host and diagnosis of Nematoda (roundworms) of major relevance in Veterinary Medicine and Public Health</i></p>	<p><i>Overview of Nematoda</i></p>	<p>Introduction to Nematoda (round worms) of veterinary importance.</p>	<p>0.5</p>
	<p><i>Nematoda Adenophorea</i></p>	<p>Classification, morphology, life cycle, effects on the host and diagnosis of nematoda of the class Enoplea belonging to the families Trichuridae and Trichinellidae.</p>	<p>1.5</p>
	<p><i>Nematoda Chromadorea</i></p>	<p>Classification, morphology, life cycle, effects on the host and diagnosis of nematoda Secernentea of the class Chromadorea belonging to the families Ascarididae, Onchocercidae, Strongyloididae, Ancylostomatidae, Strongylidae, Chabertiidae, Trichostrongylidae, Molineidae, Dictyocaulidae, Protostrongylidae. Outline of morphology and biology of Metastrongylidae and Angiostrongylidae.</p>	<p>5</p>
<p>6. ARTHROPODS (TOT. 5 HOURS)</p> <p><i>To acquire knowledge on classification, morphology, biology, effects on the host and diagnosis of Arthropods of major relevance in Veterinary Medicine and Public Health</i></p>	<p><i>Overview of Arthropods</i></p>	<p>Introduction to Arthropods of veterinary importance.</p>	<p>0.5</p>
	<p><i>Acari</i></p>	<p>Classification, morphology, life cycle, effects on the host and diagnosis of arthropods of the class Arachnida, subclass Acari: ticks belonging to the families Argasidae and Ixodidae (order Metastigmata) and “properly called” mites (orders Astigmata, Mesostigmata and Prostigmata).</p>	<p>2.5</p>
	<p><i>Insecta</i></p>	<p>Classification, morphology, life cycle, effects on the host and diagnosis of arthropods of the class Insecta: order Siphonaptera (fleas), order Phthiraptera (lice), and order Diptera (as vectors and as agents of myases).</p>	<p>2</p>
<p>Practical lectures</p>			
<p>7. DIAGNOSTICS IN PARASITOLOGY (TOT. 10 HOURS)</p> <p><i>To acquire practical skills useful to detect and identify parasites and mycetes of</i></p>	<p><i>Approach to the parasitological exam</i></p>	<p>Prevention and safety in the laboratory of parasitology. Equipment, materials and reagents useful for parasitological analyses. Main parasitological techniques to be applied to biological samples from animals (feces, blood, skin scrapes, etc.)</p>	<p>2</p>
	<p><i>Mycetes</i></p>	<p>How to collect, sample, store and transport samples to be subjected to mycological exams. Microscopical and</p>	<p>2</p>

<i>major relevance in Veterinary Medicine</i>		cultural techniques useful to identify mycetes of relevance in veterinary medicine.	
	<i>Protozoans</i>	How to collect, sample, store and transport samples to be subjected to parasitological exams in order to detect protozoan parasites. Morphological identification in fresh and stained specimens.	2
	<i>Helminths</i>	How to collect, sample, store and transport samples to be subjected to parasitological exams in order to detect helminth parasites (flatworms and roundworms). Morphological identification.	2
	<i>Arthropods</i>	How to collect, sample, store and transport samples to be subjected to parasitological exams in order to detect arthropods of relevance in veterinary medicine. Morphological identification.	2