



INSTITUTO DE HIGIENE E
MEDICINA TROPICAL
DESDE 1902

MEDICAL HELMINTHOLOGY

CU characterization:

CU name:

Medical Helminthology

Scientific area acronym:

HM

Duration:

Semiannual

Working hours:

296

Contact hours:

109

ECTS:

11

Observations:

This school year the distribution of classes was as follows:

T: 24 hours; P: 31 hours; S: 12 hours; OT: 42 hours; Evaluation: 5.5 hours

Teacher in charge and respective teaching load in the CU:

Manuela Calado – 77.5 hours

Other teachers and respective teaching load in the CU:

Silvana Belo – 56 hours

Isabel Mauricio – 53 hours

Pedro Ferreira – 52.5 hours

Intended learning outcomes (knowledge, skills and competences to be developed by the students):

After this unit, students should be able to:

1. Identify the main groups of pathogenic helminths, their differential morphological characteristics and their importance in human health.
2. To mention the various intervening factors in the epidemiology and transmission of helminths.
3. To evaluate the repercussions of parasitism at clinical, economic and social level



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Intended learning outcomes (knowledge, skills and competences to be developed by the students): (continuation)

4. Identify their evolutionary forms and their pathological action in the human organism.
5. To mention the impact of helminthiases in Public Health concerning the climate and environmental changes.
6. Select the most appropriate techniques for the laboratory diagnosis of helminths and perform the most common parasitological methods.
7. Refer the main prophylactic and control measures for helminths.

Syllabus:

- I. Introduction to Medical Helminthology. Main groups and systematics. Morphological and physiological aspects of different phyla. Helminths parasites of man and animals: life cycles and host specificity. Snails intermediate hosts of helminths and the importance of host-parasite relationship.
- II. Helminthiasis caused by Intestinal cestodes. Tissue cestodes: hydatidosis and cysticercosis.
- III. Helminthiasis caused by hepatobiliary, intestinal, pulmonary and blood trematodes. *Schistosoma* spp and their intermediate host snails.
- IV. Helminthoses caused by intestinal, visceral and tissue nematodes: Geohelminthoses and Migrant Larva Syndromes.
- V. Vector-transmitted helminths: filariasis.
- VI. Animal models of nematodes: *Caenorhabditis elegans*.
- VII. Integrated control against helminthiasis.
- VIII. Methods for the diagnosis of helminth infections. I – Direct methods. II - Immunological and molecular diagnosis methods. Observation and identification parasitic forms.

Teaching methodologies (including assessment):

Teaching methods to be applied are:

- Lecture (T)
- Theoretical-practical classes (TP)
- Laboratorial practical (PL)
- Seminars (S)
- Tutorial supervision (TS)



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Teaching methodologies (including assessment): (continuation)

Evaluation methods

Student assessment will be based on the following elements:

- Theoretical and practical exams;
- Continuous assessment in practical classes by filling individual records related to the session.
- Group and individual seminars on topics related to the lectures, followed by discussion.
- The final evaluation will be distributed as follows: 5% continuous assessment; 25% seminars; 20% practical exam; 50% theoretical exam.

References for consultation / mandatory existence:

- Cook C.G., Zumla A.I. (2008). Manson's Tropical Diseases, 22^a Ed. Elsevier Science, UK: 1800 pp.
- Magill AG, Ryan ET, Solomon T, Hill DR (2012). Hunter's Tropical Medicine and Emerging Infectious Disease. Elsevier Inc., 1111 pp.
- Brunetti E, White AC Jr. (2012). Cestode infestations: hydatid disease and cysticercosis. Infect Dis Clin North Am., 26 (2):42135.
- Dold C, Holland CV. (2011) Ascaris and ascariasis. Microbes Infect. 13(7):6327.
- Mas Coma S, Valero MA, Bargues MD (2009). Climate change effects on trematodiasis, with emphasis on zoonotic fascioliasis and schistosomiasis. Vet. Parasitol. 163:264–280.
- Lustigman S, Prichard RK, Gazzinelli A, Grant WN, Boatín BA, McCarthy JS, Basáñez MG.(2012). A research agenda for helminth diseases of humans: the problem of helminthiasis. PLoS Negl Trop Dis, 6 (4):e1582.
- Taylor MJ, Hoerauf A, Bockarie M. (2010). Lymphatic filariasis and onchocerciasis. Lancet. 376 (9747):117585.