



INSTITUTO DE HIGIENE E  
**MEDICINA TROPICAL**  
DESDE 1902

## **MEDICAL PROTOZOOLOGY**

### ***CU characterization:***

#### ***CU name:***

Medical Protozoology

#### ***Scientific area acronym:***

PM

#### ***Duration:***

Semiannual

#### ***Working hours:***

296

#### ***Contact hours:***

111

#### ***ECTS:***

11

#### ***Observations:***

This school year classes are distributed as follows:

T: 24 hours; TP: 3 hours; PL: 30 hours; OT: 37 hours; Evaluation: 6 hours.

### ***Teacher in charge and respective teaching load in the CU:***

Henrique Silveira – 5 hours

### ***Other teachers and respective teaching load in the CU:***

Ana Domingos - 5 hours

Ana Paula Arez – 11.5 hours

Carla Maia – 9.5 hours

Fátima Nogueira – 11.5 hours

Gabriela Santos-Gomes – 16.5 hours

José Manuel Cristovão - 3 hours

Luís Filipe Lopes - 6 hours

Maria Luísa Lobo - 4 hours

Olga Matos - 20 hours

Pedro Cravo – 7.5 hours

Sandra Antunes - 5 hours

Sofia Cortes - 10 hours



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

After this unit, students should be able to:

1. Apply the knowledge and skills to identify the principal parasitosis caused by protozoa of medical relevance and recognize the pathophysiology and clinical aspects caused by these microorganisms.
2. Apply their knowledge in the context of diagnosis of protozoa.
3. Integrate the obtained knowledge and skillful with a reflection on the social and ethical responsibilities related to the application of knowledge and judgments especially in field studies and parasite control interventions.
4. Communicate their conclusions and the knowledge and reasoning that support scientific and civic community.
5. Pursuing studies in your field of study in a self-directed or autonomous way.

### *Syllabus:*

Major parasitic infections caused by protozoa of medical interest: General concepts (One Health, emerging reemerging, neglected, poverty, vector-borne diseases, zoonosis, anthroponosis and other concepts related to parasitism and ecosystems) Biology, Epidemiology, Clinical features, Treatment, Prevention and Control. Trypanosomatidae: *Trypanosoma cruzi* and Chagas disease, *Trypanosoma brucei* and Sleeping Sickness, *Leishmania* and leishmaniasis. *Plasmodium* and malaria. *Toxoplasma gondii* and toxoplasmosis. Infections in immunocompetent and immunocompromised hosts. Commensal and pathogenic intestinal protozoan, *Giardia duodenalis* and *Entamoeba histolytica*, *E. coli* and other amoebas. Intestinal protozoa (*Cryptosporidium*, *Isospora*, *Cyclospora* and *microsporidia*) and other protozoa with zoonotic potential. Microscopic observation of protozoa presented in theoretical sessions. Realization of parasitological immunological and molecular techniques for diagnosis and identification of protozoa.

### *Teaching methodologies (including assessment):*

T and TP classes use the expository method, in the classroom. In the TP, knowledge is transmitted with analysis and resolution of exercises related to the themes presented. In practical classes, in the laboratory, the studied pathogens are observed under a microscope and laboratory methods are carried out, reinforcing the knowledge of classes T and TP classes. Students will have to present in writing or orally small tasks associated with the subject exposed during practical classes in order to develop critical and expository skills.



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### *Teaching methodologies (including assessment): (continuation)*

The assessment has 3 components consisting of:

- Theoretical test (70%), which will consist of a multiple-choice component (45%) and a component of short-answer questions (25%)
- Practical test (20%), with observation of biological sample preparations for presumptive diagnosis of protozooses and a multiple-choice component over the remaining practical component.
- Continuous assessment (10%) At the end of each class, activities will be assigned to students, whose completion is the main component of this assessment.

### *References for consultation / mandatory existence:*

- Cook, G.C. & Zumla, A.L. (Eds). (2014). Manson's Tropical Diseases. London: Saunders Elsevier.
- Garcia, L.S. (2007). Diagnostic Medical Parasitology. Washington, DC: ASM Press.
- Rey, L. (2008). Parasitologia. RJ. GuanabaraKoogan.
- World Health Organization (1991). Basic lab methods in medical parasitology. Retrieved from WHO:  
[www.who.int/malaria/publications/atoz/9241544104\\_part1/en/index.html](http://www.who.int/malaria/publications/atoz/9241544104_part1/en/index.html)