

Academic Year/course: 2021/22

## 26781 - Tropical Parasitic Diseases

### Syllabus Information

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**Academic Year:** 2021/22

**Subject:** 26781 - Tropical Parasitic Diseases

**Faculty / School:** 104 - Facultad de Medicina

**Degree:** 304 - Degree in Medicine

**ECTS:** 4.0

**Year:** 5

**Semester:** First semester

**Subject Type:** Optional

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The subject consists of a **theoretical part**, a **practical part**, **tutorials**, and **student work**. For each module, we will explain the theoretical concepts and then we will work the contents in the laboratory practices and seminars.

- The **lectures** will be given as participatory masterclasses.
- Attendance at **practice sessions** is compulsory. In each class, a video about parasitic tropical diseases will watch and discuss and the laboratory practice will be made.
- In the **seminars**, students will present and discuss clinical cases.

**The subject is taught intensively during the first months of the course, achieving an immersion in Parasitology that facilitates learning.**

#### 4.2. Learning tasks

- **Lectures: Participative lecture (25 hours of theory sessions)**, in which students will learn the basic concepts that will allow him to relate the disease with clinical manifestations and watch real and original images of different parasite forms and the effects which they produce in the patients.
- **Practice sessions (15 hours of practice sessions)**, in which we will watch a film about parasitic diseases in endemic areas. In these films patients with typical lesions, appropriate treatments and plans of disease prevention and control are shown. Then a debate on the subject of the film will take place. Laboratory practices will consist in microscopic identification of Microscope Slide Whole Mounts and adults of each type of parasite, as technique "gold standard" to establish the diagnosis and treatment.

All students will be informed about the risks that may have the realization of the practices of this subject, and if dangerous products are handled and what to do in case of an accident. All students must sign a commitment to comply with working arrangements and safety to make them. For more information, see the information for students of the Unit Occupational Health and Safety: <http://uprl.unizar.es/estudiantes.html>

- **Seminars (1.5 onsite sessions):** Clinical cases will be proposed which will be discussed simulating a clinical sesión.
- **Tutorial activity:** For any queries, students can contact teachers by email, on-line (Moodle platform), phone or visiting their office during the teacher's tutorial times published on the students' gateway

- **ADD:** In ADD (Moodle Platform, ADDUnizar), the students have available didactic support materials.

### 4.3. Syllabus

The course will address the following topics:

#### Section 1. Introduction to Clinical Parasitology.

**Topic 1.** Associate basic terms of parasitology with their definitions. Host and parasite types. Life cycles. Transmission routes of parasitic diseases. Nomenclature of parasitic diseases.

#### Section 2. Intestinal nematode infections.

**Topic 2. Ascariasis. Trichuriasis. Hookworm disease. Strongyloidiasis. Enterobiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

#### Section 3. Blood and tissue nematode infections.

**Topic 3. Trichinellosis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 4. Visceral larva migrans. Cutaneous larva migrans. Anisakiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 5. Dracunculiasis. Lymphatic Filariasis. Cutaneous Filariasis. Serous cavities Filariasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 6. Abdominal Angyostrongilosis. Eosinophilic Meningitis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

#### Section 4. Cestode infections.

**Topic 7. Infections caused by adult intestinal tapeworm: Diphyllbothriosis. Diplogonoporiasis. Tapeworm infections cause by *Taenia saginata* and *Taenia solium*. Hymenolepiasis. Dipylidiosis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

**Topic 8. Larval cestode infections: Hydatidosis. Cysticercosis. Cenurosis. Sparganosis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

#### Section 5. Trematoda infections.

**Topic 9. Lung trematodiasis (Paragonimiasis), biliary trematodiasis (Fascioliasis, Chlonorchiasis, Opisthorchiasis, Dicroceliasis), intestinal trematodiasis (Fasciolopsiasis, Heterofiasis, Metagonimiasis).** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

**Topic 10. Intestinal and urogenital Schistosomiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

#### Section 6. Intestinal protozoa infections.

**Topic 11. Amebiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations of intestinal and extraintestinal forms. Complications. Diagnosis. Treatment. Epidemiology, control and prevention. Other intestinal amoebae: differential diagnosis. **Blastocystiasis.**

**Topic 12. Balantidiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 13. Giardiasis. Dientamoebiasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention. Diagnosis of other intestinal flagellates.

**Topic 14. Cryptosporidiasis. Isosporiasis. Cyclosporiasis. Sarcocystiosis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

#### Section 7. Urogenital Protozoa Infections.

**Topic 15. Trichomoniasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control and prevention.

#### Section 8. Blood and tissue protozoa infections.

**Topic 16. Malaria.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Malaria in pregnant women. Malaria in children. Diagnosis. Treatment. Epidemiology, Prevention of mosquito bites and chemoprophylaxis. Vaccines: lines of research

**Topic 17. African Trypanosomiasis (sleeping sickness). American Trypanosomiasis (Chagas Disease).** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 18. Visceral Leishmaniasis. Cutaneous Leishmaniasis. Mucocutaneous Leishmaniasis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 19. Toxoplasmosis.** Geographical distribution. Etiological agents: morphology and cycle. Pathogenesis. Clinical

manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Topic 20. Meningoencephalitis and keratitis caused by free-living amoebae.** Etiological agents: morphology and cycle. Geographical distribution. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

#### **Section 9. Arthropoda infections.**

**Topic 21. Pediculosis. Tungiasis. Myiasis. Scabies.** Etiological agents: morphology and cycle. Geographical distribution. Pathogenesis. Clinical manifestations. Complications. Diagnosis. Treatment. Epidemiology, control, and prevention.

**Practice sessions:** laboratory sessions and visualization and discussion of films about parasitic diseases.

**Seminars:** Based on solving clinical cases in order to relate theoretical and practical concepts.

**Tutorial activity:** Individuals or in the group.

Didactical support material will be available in the web of the subject in the ADD Moodle Platform.

#### **4.4. Course planning and calendar**

Dates classroom sessions: See notice board of the center or ADD

Theoretical and practical classes: 5th year - 1st semester

Information concerning the timetable, the classroom, office hours, assessment dates and other details regarding this course will be provided on the bulletin board of the Department of Microbiology, Preventive Medicine and Public Health and for the ADD students enrolled and on the web <https://medicina.unizar.es/quinto-curso#horario9>

The date for submission of work Practices:

The deadline for the delivery of the work practices and the exhibition in the seminars will be communicated at the end of the laboratory practices.

A publication of the score obtained by activities programmed during the course: During the week prior to the exam.

The dates of partial exams will be agreed with the students in the period of delivery of the classes.

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26781>