



Department of Medical Laboratory Analysis
College of Health Sciences
University of Cihan- Sulaimaniya

Subject: Medical Parasitology

3rd Stage - 1st semester

Course Book – Year 2023-2024

Lecturer's name: Ahmed E. Fakhruldin

Academic Year: 2023/2024

Course Book

1. Course name	Medical Parasitology
2. Lecturer in charge	Ahmed E. Fakhrudin
3. Department/ College	Medical Laboratory Analysis
4. Time (in hours) per week	6 Hrs Theory 10 Hrs Practical
5. Office hours	From 11 am – 3 pm (Sunday and Wednesday)
6. Course code	-
7. Teacher's academic profile	-
8. Keywords	Medical parasite, pathogen, parasitic disease, host, vector, parasitic protozoan, parasitic helminths, endoparasite, ectoparasite, diagnostic parasitology, molecular parasitology, prevention and control of parasitic diseases.
9. Course overview:	<p>Medical Parasitology deals with the parasites that infect humans, and how these parasites interact with humans and produce symptoms. It also deals with the methods of transmission, prevention, and diagnosis of these parasites. In general, Parasites are living organisms, which depend on a living host for their nourishment, development, and survival, they live either on or within the host.</p>
10. Course objective:	<p>The aim of this course is to make students familiar with the characteristics and morphological features of medically important parasites, and the disease caused by them. The transmission and control of these parasites. In addition, this course aims to improve the skills and knowledge of the students in the detection of medically important parasites.</p>

11. Student's obligation

A student has an obligation to respect the ethical standards of **Cihan University** in the following points:

A. Class Attendance and responsibilities:

1. Students are expected to attend each class for the entire semester.
2. If a student arrives more than 15 minutes late or leaves more than 15 minutes early, they will be marked as absent for the whole hour.
3. Students are responsible for material present in lectures.
4. Students will take several quizzes over the course and the quiz marks will be counted toward the final grade. So, try to prepare yourself for quiz every week.

B. Penalty and acceptable excuses for class and exam absence:

5. Only students with official absence, family crises, and illness are excused from class.
6. Three occasions of lateness count as one absence.
7. The student who misses 10 percent of the classes will be placed on probation.
8. Since all examinations are announced in advance, **ZERO** grade will be given to any missed examination unless a student has an acceptable reason, such as illness, for not being able to take the examination during all those days when the examination was announced.

12. Forms of teaching

- The theoretical lectures will be demonstrated utilizing data show, white board and google class in addition to academic discussions in the class.
- The particle labs will be demonstrated utilizing data show, white board and google class in addition to laboratory work.

13. Assessment scheme

Theory Session			
No.	Activities	Number or Quantity	Mark %
1	Assignments/ Homework	2-3	2
2	Quiz	4-5	4
3	Daily Activity	-	2

4	Attendance	-	2
5	Test (Theory)	1	20
Total			30
Practical Session			
1	Quiz	4-5	4
2	Lab. Report	-	8
3	Lab. Presentation	-	4
4	Lab. Attitude	-	2
5	Attendance	-	2
Total			20
Final Exam			
1	Practical Examination	1	20
2	Theory Examination	1	30
Total			100

14. Student learning outcome:

At the end of this course student should know

1. The Epidemiology, morphological features, and life cycle of medically important parasites.
2. Control and prevention of medically important parasites.
3. Diseases caused by medically important parasites and how to treat them.
4. Different laboratory diagnostic techniques to detect medical parasites.

15. Course Reading List and References:

- Mahmud, R. Lim, Y.A. and Amir, A. (2017). **Medical parasitology**. Cham, Switzerland: Springer International Publishing. <https://doi.org/10.1007/978-3-319-68795-7>

- Paniker, C.J. and Ghosh, S. (2013), **Paniker's textbook of medical parasitology**, (7th edition). Jaypee Brothers Medical Publishers (P) Ltd.
- Garcia, L.S. (2007), **Diagnostic Medical Parasitology**. ASM Press.
- John, D.T. and Petri, W.A. (2006). **Markell and Voge's medical parasitology**. (9th edition) Elsevier Health Sciences.
- World Health Organization. (1991). **Basic laboratory methods in medical parasitology**. World Health Organization.

16. The Topics:

A. Theory Lecture

no.	Topic
1	Introduction to Medical parasitology
2	Protozoan, Amoebae
3	<i>Cryptosporidium parvum</i> , <i>Cyclospora cayetanensis</i>
4	Nematodes, Whipworm (<i>Trichuris trichiura</i>)
5	<i>Strongyloides stercoralis</i>
6	Hookworm, <i>Ancylostoma duodenale</i> , <i>Necator americanus</i>
7	Filarial Worms, African eye worm (<i>Loa loa</i>), <i>Onchocerca volvulus</i>
8	Midterm exam
9	Cestodes, Fish tapeworm <i>Diphyllobothrium latum</i>
10	Beef tapeworm (<i>Taenia saginata</i>) and Pork tapeworm (<i>Taenia solium</i>)
11	Dwarf tapeworm (<i>Hymenolepis nana</i>), <i>Dipylidium caninum</i>

12	Trematodes, Giant intestinal fluke (<i>Facioloesis buski</i>), Medically important ectoparasites
13	Final Examination

B. Practical Lecture

no.	Topic
1	Laboratory safety and introduction
2	Diagnosis of <i>Entamoeba</i> spp. cysts and trophozoites in stool
3	Diagnosis of <i>Cryptosporidium parvum</i> and <i>Cyclospora cayetanensis</i> oocysts in stool
4	Diagnosis of <i>Trichuris trichiura</i> eggs in stool
5	Diagnosis of <i>Strongyloides stercoralis</i> larvae in stool
6	Diagnosis of <i>Ancylostoma duodenale</i> and <i>Necator americanus</i> eggs and larvae.
7	Diagnosis of <i>Loa loa</i> microfilaria and adult,
8	Diagnosis of <i>Onchocerca volvulus</i> microfilaria
9	Diagnosis of <i>Diphyllobothrium latum</i> adult and eggs (Scolex, Proglottid and eggs)
10	Diagnosis of <i>Taenia saginata</i> and <i>Taenia solium</i> (Scolex, Proglottid and eggs)
11	Diagnosis of <i>Hymenolepis nana</i> and <i>Dipylidium caninum</i> (eggs and proglottids)
12	Diagnosis of <i>Facioloesis buski</i> (adult and eggs), Morphological features of medically important ectoparasites
13	Final Examination

17. Sample of Question

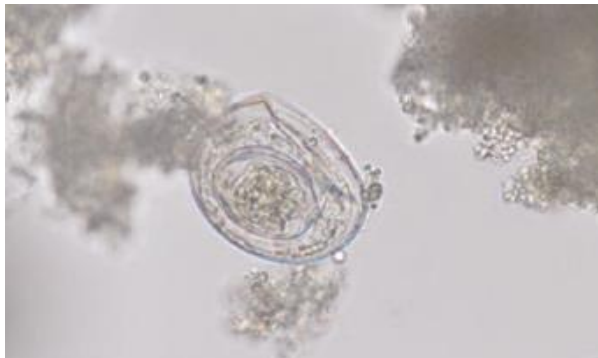
Q1/ Multiple choice questions (MCQs):

- *Entamoeba histolytica* mature cyst contains:
A. three nuclei B. four nuclei C. five nuclei D. six nuclei
E. none of above

Q2/ Fill in the blanks with the correct answer:

1. ----- oocysts contain 4 crescent shaped sporozoites and can remain viable in the environment for prolonged period and resistant to most disinfectants and temperature up to 60 °C.
2. *Onchocerca volvulus* adult male worm measures not more than ----- cm in length and the female measures ----- cm.

Q3/ Identify the parasite shown below (write the scientific name and the stage):



Q4/ Enumerate 2 drugs used in the treatment of Taeniasis.

Q5/ Determine if the following statements are true or false. If false, replace the underlined word(s) or expression to produce a true statement.

1. *Loa loa* common name is Giant intestinal fluke.
2. The infective stage of *Fasciolopsis buski* is cercariae.

18. Peer review: I certify that:

1. I read and verify all requirements of teaching quality assurance are respected in this course book.
2. The scientific contents are new, convenient and well organized for this stage.
3. The order of chapters is well done.
4. References are new and available for students.

That's why I signed on this course book and I take all responsibilities.

Name: Ahmed E. Fakhrudin

Scientific title: Assistant Lecturer

University: Cihan University of Sulaimaniya

College: Medical Sciences / Medical Laboratory Analysis Department

E-mail: ahmed.ezzulddin@sulicihan.edu.krd

Date: 9/09/ 2023

Signature:

Main Lecturer in charged
Ahmed E. Fakhrudin

Head of The Department
Dr. Hastyar Hamarashid