



Department of Biology

College of Education

Salahaddin University

**Subject: Theoretical parasitology
(protozoology)**

Course Book – (Year: 4, first semester)

Lecturer's name: Khder Niazi Nooraldeen - Ph.D.

Academic Year: 2023-2024

Course Book

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| 1. Course name | Theoretical Parasitology |
| 2. Lecturer in charge | Khder Niazi Nooraldeen |
| 3. Department/ College | Biology Dept./ College of Education |
| 4. Contact | e-mail: Khder.Nooraldeen@su.edu.krd |
| 5. Time (in hours) per week | 2 |
| 6. Office hours | Monday and Thursday, 9-11:00 a.m., and by appointment |
| 7. Course code | EdB0401 |
| 8. Teacher's academic profile | My philosophy in education is to improve myself by learning new skills and technologies in education from the experience of other academics throughout the world. This philosophy depends on transmitting the information of the other academics directly to us, or modifying them to be more suitable with the conditions of our university. Certainly this will not happen if there is no close look at the other universities behind the borders. Using new technologies in education is very important for the students because they have to be familiar with these technologies after graduation for the market of business if they will work in the private sector or to use these technologies in their work as future teachers or academics. |
| 9. Keywords | Parasite, host, infection |
| 10. Course overview: | <ul style="list-style-type: none"> ▪ Studying parasitology is very important because it gives the students a general overview about the important parasites in our region especially and the world generally. Parasitism is way of living depends on taking benefits from the host and causing damages to the host in return. ▪ The fundamental concept of the course is that there are many types of relationships between the organisms in the world of biology. The course of parasitology aims to give the students a general view of parasitology and the relationship between the parasite and its host in general and the specification of each parasite to one or more than one host. ▪ The principles and theories of the course of parasitology focus on the harmful effect of the parasite on its host and there are many unhealthy side effects of this relationship between the parasite and its host resulted from the damages of the host by the parasite. ▪ The course includes lectures about the prevalent parasites and their hosts in the region and the world, their biology, life cycles, epidemiology, transmission, control and prevention. The |

course includes studying three major groups of parasites: parasitic protozoan, helminthes and arthropods of human.

▪ The sufficient knowledge and understanding of parasitology will make the students aware of not being infected with the parasites because they have a wide background **about the** parasites and their routes of transmission. If the student has enough knowledge about this course, he or she will be able to prevent infection with these parasites. The students as future teachers can transmit their knowledge of parasitology to their pupils in the schools.

11. Course objective:

The objective of the course is to give the students a general view of parasitology and the relationship between the parasite and its host in general and the specification of each parasite to one or more than one host. The course provides lectures about the prevalent parasites in the region, life cycles, epidemiology, control and prevention. The course also includes studying the parasitic protozoan, helminthes and arthropods of human. By the end of course, the student must be able to know the important parasites and how to prevent their transmission. In this part the blockage or cutting the life cycle of the parasite will eliminate the parasites.

12. Student's obligation

The student is responsible for all the materials which are lectured in this course. The student has to attend all the lectures. The student has to complete all the exams of this course. Absence from the exams without proper documentation will not be acceptable. Cheating or ant any attempt of cheating will not be tolerated.

13. Forms of teaching

The lectures are going to be taught in lecturing hall with the help of data show on the board. The lecture includes written material and photos of the parasites. The lectures are explained in power point form. The blackboard may be used sometimes. The students can receive the lectures from the photocopy shop at the college of education.

14. Assessment scheme

In the theoretical part of parasitology there will be 1 midterm exam and one final exam covering the entire lectures of the course.

Evaluation of theoretical part

Midterm exam 15%

Final exam 50%

Total 65%

15. Student learning outcome:

After the finishing of this course, the student will be able to know the term of parasitism, the effect of this kind of relationship on the host of the parasite. The student will be able to improve his life and the community around him by avoiding the infection with the parasites. The student will have good information about the life cycles of the parasites; this will make him or her able to prevent the infection. The student will be graduated and work as a teacher in the high schools so he could inform the pupils of the high schools about the parasites.

16. Course Reading List and References

▪ Key references: Foundations of Parasitology by Roberts, L. S. and J. Janovy, Jr. for additional information.

| <p>▪ Magazines and review (internet): Centers for Disease Control and Prevention www.cdc.gov/</p> | |
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| 17. The Topics | Lecture Date |
| <p>Week 1 Course Introduction Week 2 Ecology & Evolution of Parasitism Week 3 Parasite-Host Interactions Week 4 Major parasitic phyla Week 5 Introduction to Protozoa Week 6 Amoebiasis Week 7 Other Amebae inhabiting the alimentary canal Week 8 Luminal Flagellates Week 9 Trichomonas vaginalis Week 10 Other Flagellates inhabiting the alimentary canal Week 11 Haemoflagelates, Leishmania species Week 12 Trypanosomiasis Week 13 Ciliaphora, Balantidiasis Week 14 Sporozoa, Malaria</p> | |
| <p>19. Examinations:</p> <p>1. Compositional:</p> <ul style="list-style-type: none"> • What is the parasite? is a living organism, which takes its nourishment and other needs from a host; the host is an organism which supports the parasite. The parasites included in medical parasitology are protozoa, helminthes, and some arthropods. • What are the direct effects of the parasite on the host? <ol style="list-style-type: none"> 1. Mechanical injury - may be inflicted by a parasite by means of pressure as it grows larger, e.g. Hydatid cyst causes blockage of ducts such as blood vessels producing infraction. 2. Effect of toxic substances- in Plasmodium falciparum production of toxic substances may cause symptoms. 3. Deficiency of nutrients, fluids and metabolites -parasite may produce disease by competing with the host for nutrients. <p>2. True or false type of exams:</p> <ul style="list-style-type: none"> • Obligate Parasite is completely dependent on the host during a segment or all of its life cycle. True • The nucleus of viable trophozoites of Entamoeba coli is characterized by evenly arranged chromatin on the nuclear membrane and the presence of a small, compact, central karyosome. False <p>3. Multiple choices:</p> <ul style="list-style-type: none"> • ----- an association in which both partners are metabolically dependent upon each other and one cannot live without the help of the other. | |

1. **Mutualism**
 2. Commensalism
 3. Parasitism
- ----- was recovered from the mouth specifically in tartar from the teeth.
 1. *Trichomonas hominis*
 2. ***Trichomonas tenax***
 3. *Chilomastix mesnli*