The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Diagnostic Parasitology
2	Course number	0308353
3	Credit hours (theory, practical)	2, 3
	Contact hours (theory, practical)	Sunday & Tuesday (11 - 12) , Sunday (11- 12) & Thursday (12 - 13)
4	Prerequisites/co-requisites	0303102
5	Program title	Bachelor of Medical Laboratory Sciences
6	Program code	
7	Awarding institution	University of Jordan
8	Faculty	Science
9	Department	Biology
10	Level of course	Third Year
11	Year of study and semester (s)	First Semester 2017/2018
12	Final Qualification	B.Sc. in Medical Laboratory Sciences
13	Other department (s) involved in teaching the course	none
14	Language of Instruction	English
15	Date of production/revision	2017

16. Course Coordinator:

Ibrahim Mosleh, PhD
Office: 214 Biology building
Phone number: 22228
Email: i.mosleh@ju.edu.jo

Office hours: Sunday, Wednesday, Thursday (11-12) and by appointment

17. Other instructors:

None

18. Course Description:

An important part of this course is the identification of parasites and their association with the diseases they cause. Knowledge of the mechanisms by which those diseases occur provides a basis for laboratory diagnosis. The goal of the lecture portion of this course is to familiarize the student with the characteristics of each of the clinically significant human parasites, including morphology, diseases caused, life cycle, route of infection, appropriate clinical specimens, pathogenesis, host immune response to infection, and prevention and

treatment. This information serves as the basis for the laboratory identification of parasites.

19. Course aims and outcomes:

A- Aims:

This course will enable students to explore and gain further understanding of medical parasitology through the investigation of different parasites that infect human.

Provide students with a broad base of knowledge regarding medical parasitology.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to …

1. get a broad knowledge of the important parasites of human and their life cycles.
2. recognize the various parasitic pathogens in relation to body system infections and in terms of their pathogenesis, transmission and diagnosis.
3. be familiar with important techniques of examining these parasites from clinical specimens.
4. have the skills of specimen collection, storage, transport, acceptability and processing procedures.
5. describe immunologic and serologic identification techniques, the prevention and control of significant parasites.
6. discuss and be familiar with new technology in current diagnosis of body system- parasitic diseases.
7. choose the appropriate methods for the examination of parasitology specimens for definitive identification of parasitic pathogens.
8. Report and interpret the results of the testing to the clinician.

20. Topic Outline and Schedule:

1 Topics to be Covered

***Theory**

Topic	No of Weeks	Contact hours
Introduction to Parasitology - parasites and parasitism	1	1
Parasitic infections and diseases The Protozoa: classification and structure of protozoa of medical importance	1	1
Amoebae: Pathogenic (dysentery) amoeba *Entamoeba histolytica* Non-pathogenic amoebae: *Entamoeba coli Endolimax nana, lodameba buetschlii* Pathogenic free-living amoeba: *Naegleria fowleri, Acanthamoeba* sp.	2	4
Intestinal and urogenital flagellates: *Giardia* sp. *Trichomonas* sp. Intestinal ciliates: *Balantidium coli*	1	2
Blood and tissues flagellates: *Leishmania* sp., *Trypanososma* sp.	2	3
Malaria Parasites: *Plasmodium* sp Coccidia: *Toxoplasma* sp	1	2
Coccidia contd ... : *Isospora, Sarcocystis Cryptosporidium*	1	2
Introduction to Cestodes: Pseudophyllidean tapeworm *Diphyllobothrium latum* Cyclophyllidean tapeworm: *Taenia saginata, Taenia solium.*	1	2

Taenia multiceps, Hymenolepis nana, Diphyllidium caninum, Echinococcus granulosus. Larval cestodes : cysticercus, hydatid cyst, coenurus, plerocercoid	1	2	
Midterm Exam	1	1	
Introduction to Nematodes (Nematoda) Intestinal worms: *Ascaris* sp.,*Trichuris* sp *Enterobius* sp	2	3	
Hookworm, *Strogyloides* sp Tissuue worms: Filariae – *Wuchereria* sp, *Brugia, Loa loa* *Onchocereca, Dracunculus* sp., -Larva migrans	2	3	
Introduction to trematodes intestinal flukes: *Fasciolopsis buski, Heterophyes*	1	2	
Hepatic flukes contd .. *Opisthorchis, Dicrocoelium dendriticum* Pulmonary flukes: *Paragonimus* sp.	1	2	
Indirect evidence of parasitic infection Arachnida	1	2	
Insecta	1	2	
Final Exam	1	2	
Practical	1	2	
Introduction: Safety in the laboratory, Care of Instruments Demonstration on the use of microscope, the different types of specimens examined, collection methods and materials	1	2	

Demonstration of microtitre plates Demonstration of parasites. Draw and label Protozoa: Amoebae - *Entamoebae histolytica* *Entamoeba coli*, *Iodamoeba butschlii*, *Endolimax nana* Pictures of pathogenic free-living amoebae: *Naegleria* sp. *Acanthamoebae* sp.	1	2	
3. Repeat of previous week parasites demonstrated Protozoa; Intestinal flagellates- *Giardia Intestinalis*, *Trichomonas hominis* Ciliates - *Balantidium coli*	1	2	
4. Repeat: Intestinal flagellates, Ciliates Haemoflagellates: *Leishmania* sp., Trypanosomes Demonstration: stool examination	1	2	
5. Haemoflagellates continued Coccidia: Malaria parasites (*Plasmodium* sp), *Toxoxplasma* sp, --*Isospora* sp, *Cryptosporidium* sp Stains: Giemsa, Leishman, Methylene blue	1	2	
Coccidia cont. Examination of stool specimens	1	2	
Midterm exam			
Demonstration: collection of blood specimens. Staining methods using Giemsa and Leishman stains Concentration of stool specimens.	1	2	
Helminths: Nematodes: *Ascaris lumbricoides* *Trichuris trichuria, Enterobius vermicularis*	1	2	
Hookworms, *Strongyloides stercoralis*, *Dracunculus medinensis*, Filariae. Examination of stool specimens by students	1	2	

Helminths :Cestodes -Pseudophyllidean worm- *Diphyllobotrium latum*, Cyclophyllidean worm - *Taenia saginata, Taenia solium, Echinococcus granulosus, Hymenolepis nana* Examination of stool specimens by students				1	2
Cestodes continued,repeat of previous week Helminths: Trematodes - *Fasciolopsis buski. Fasciola hepatica, Paragonimus* sp				1	2
Entomology: Demonstration of some insects of medical importance: *Musca domestica*, *Phlebotomus* sp, Mosquitoes				1	2
Final Exam				1	2
Lecture: 30 hr. + 1st + 2nd exams	Tutorial:	Laboratory 26	Practical/Field work/Internship	Other:	

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Interactive lecture using data show and overhead projector
Office hour discussions
Quizzes
Lab reports

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Short answer questions during the lectures
Quizzes
Exams

23. Course Policies:

A- Attendance policies: Regular class attendance is expected, attendance by seating number.

B- Absences from exams and handing in assignments on time: Reporting a valid reason of absence is accepted.

C- Health and safety procedures: All students should comply with the university health and safety procedures

D- Honesty policy regarding cheating, plagiarism, misbehaviour: All students should comply with the university Honesty policy regarding cheating, plagiarism, misbehaviour

E- Grading policy: Depends on average

First Hour Exam	**16**
Second Hour Exam	**16**
Midterm Lab Exam + Quizzes	**18**
Final Theory and Lab Exams	**50**

Total	**100**

F-

24. Required equipment:

Available university services that support achievement in the course:

Data Show Projector, internet access

Microscopes

Prepared slides of different stages of the parasites

Preserved specimens of different parasites

Posters of representing the life cycles of different parasites

25. References:

1. Franklin A. Neva and Harold W. Brown 2003.Basic Clinical Parasitology, 7th ed., Prentice Hall Int.
2. Animal Agents and Vectors of Human Diseases, 1985. Paul C. Beaver and Rodney C. Jung, 5th ed., Lea & Febiger
3. Google image demonstration parasitic stages and life cycles

26. Additional information:

Name of Course Coordinator: Dr. Ibrahim Mosleh Signature: ---------- Date: 10/09/2017

Head of curriculum committee/Department: ---------- Signature: ----------

Head of Department: ……. Signature: ----------

Head of curriculum committee/Faculty: ---------- Signature: ----------

Dean: ---------- -Signature: ----------

Copy to:
Head of Department
Assistant Dean for Quality Assurance

Course File