



Course Syllabus of Medical Parasitology I

Faculty: Medicine and Health Science

Department: Health sciences

Program: Bachelor in Medical Laboratories

I. General information about the course instructor :

Name	Dr. Rashad Abdul-Ghani	Office Hours(2 Hours Weekly)					
Location & phone number	737259467	Sat	Sun	Mon	Tue	Wed	Thu
Email	r.abdulghani@ust.edu			2			

II. General information about the course:

1.	Course Title :	Medical Parasitology I				
2.	Course Code and Number :	BML233				
3.	Credit Hours :	Credit Hours				Total
		Theoretical	/Seminar/Tutorial	Practical	Training	
		2	---	1	---	3
4.	Study Level and Semester:	2 nd year/ 1 st semester				
5.	Pre-requisites :	BHS120				
6.	Co-requisites:	None				
7.	Program in which the course is offered:	Bachelor in Medical Laboratories				
8.	Teaching Language:	English				
9.	Instruction location:	University of Science and Technology, Sana'a ,Yemen				

عميد الكلية:
د. عبد الله المخلافي

رئيس القسم:
د. عبد الحبيب ردمان

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المراجع:
د. محمد مهدي
د. مجاهد نصار

الموصف:
د. رشاد عبد الغني



III. Course Description

This course introduces medical parasitology and provides undergraduate medical laboratory students with the theoretical and practical knowledge of medically important helminths and their diseases to prepare them for the course of diagnostic parasitology. It focuses on the geographical distribution, epidemiology, morphology, life cycle, mode(s) of transmission, pathogenesis and clinical features, laboratory diagnosis, prevention and control of helminthic diseases. The course theoretical part is delivered by lecture presentations and tutorials based on discussion-oriented lectures and interactive teaching strategies to promote critical thinking. The practical part is delivered through laboratory demonstration and hands-on training, with continuous assessment through laboratory logbooks, reports and portfolios of the students. Biology course is a prerequisite.

IV. Course Aims: This course aimed to:

1. Provide the students with a theoretical background about medical helminthology and medically important helminths.
2. Enable the students to integrate their basic knowledge of parasitic helminths in the appraisal of health problems and to propose effective approaches to their diagnosis, prevention and control.
3. Equip the students with the practical skills to identify and report the diagnostic stages of parasitic helminths.
4. Enable the students to effectively manage time, be involved in collaborative teamwork and use internet resources to learn about medical protozoology.

V. Course Intended Learning Outcomes (CILOs) :

After completing this course, students will be able to:

1. Define terms related to parasitology and recognize different types of parasites, hosts and vectors.
2. Outline the taxonomy of different species of medically important helminthes and describe systems of the body infected with them.
3. Recognize zoonotic helminthic infections and describe the role of animal reservoir hosts and/or vectors in their transmission and epidemiology.
4. Describe the epidemiology, morphology, life cycles, pathogenesis and main clinical manifestations, laboratory diagnosis, prevention and control of trematode, cestode and nematode helminthes.
5. Construct charts for the classification of helminthic parasites in relation to certain characteristics with emphasis on diagnosis.
6. Critically analyze and plan solutions for endemic health problems caused by helminths in Yemen and the region.
7. Design cost-effective approaches to the diagnosis and control of helminthic infections in the region by integrating theoretical and practical concepts of helminthology.
8. Properly use the microscope to detect and distinguish diagnostic stages of helminthes on fixed slide spots and from specimen suspensions under microscope.
9. Distinguish between different life cycle stages of helminthes and identify the shells of snail intermediate hosts of trematodes.
10. Manage time and communicate well with colleagues and staff and follow the code of conduct adopted by the institution.



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P.P

الاسم

VI. Course Contents

Theoretical Aspect:

No.	Course Units	Sub-topics	Week due	Contact Hours
1	Introduction to medical parasitology	<ul style="list-style-type: none"> • Definition and terms in parasitology • Types and examples of parasites, hosts and vectors • Classification of medically important helminths 	1 st	2
2	Class: Trematoda (I)	<ul style="list-style-type: none"> • Characteristics and classification of parasitic trematodes • Intestinal flukes <ul style="list-style-type: none"> - <i>Fasciolopsis buski</i> - <i>Heterophyes heterophyes</i> 	2 nd	2
3	Class: Trematoda (II)	<ul style="list-style-type: none"> • Liver flukes <ul style="list-style-type: none"> - <i>Fasciola hepatica</i> - <i>Fasciola gigantica</i> - <i>Clonorchis sinensis</i> • Lung fluke <ul style="list-style-type: none"> - <i>Paragonimus westermani</i> 	3 rd , 4 th	4
4	Class: Trematoda (III)	<ul style="list-style-type: none"> • Blood flukes <ul style="list-style-type: none"> - <i>Schistosoma haematobium</i> - <i>S. mansoni</i> - <i>S. japonicum</i> 	5 th , 6 th	4
5	Mid term exam		7 th	
6	Class: Cestoda (I)	<ul style="list-style-type: none"> • Characteristics and classification of parasitic cestodes • Comparison between pseudo-phylideans and cyclophylideans <ul style="list-style-type: none"> - <i>Taenia saginata</i> - <i>T. solium</i> 	8 th	2
7	Class: Cestoda (I)	<ul style="list-style-type: none"> - <i>Hymenolepis nana</i> - <i>H. diminuta</i> 	9 th	2
8	Class: Cestoda (III)	<ul style="list-style-type: none"> - <i>Echinococcus granulosus</i> - <i>Dipylidium caninum</i> 	10 th	2
9	Class: Nematoda (I)	<ul style="list-style-type: none"> • Characteristics and classification of parasitic nematodes • Comparison between intestinal and tissue nematodes • Intestinal nematodes <ul style="list-style-type: none"> - <i>Ascaris lumbricoides</i> - <i>Trichuris trichiura</i> - Hookworms (<i>Ancylostoma duodenale</i> & <i>Necator americanus</i>) - <i>Enterobius vermicularis</i> - <i>Strongyloides stercoralis</i> 	11 th , 12 th , 13 th	6
10	Class: Nematoda (II)	<ul style="list-style-type: none"> • Tissue nematodes • Filarial nematodes <ul style="list-style-type: none"> - <i>Wuchereria bancrofti</i> 	14 th , 15 th	6

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		<ul style="list-style-type: none"> - <i>Brugia</i> species - <i>Onchocerca volvulus</i> - <i>Loa loa</i> • Non-filarial nematodes <ul style="list-style-type: none"> - <i>Dracunculus medinensis</i> - <i>Trichinella spiralis</i> 		
	Final exam		16 th	2
Total number of weeks and hours			16	32

Second: Practical/Tutorial/Clinical Aspects :				
No.	Practical/Tutorial/Clinical topics	No. of Weeks	Contact Hours	
1.	<ul style="list-style-type: none"> • <i>F. hepatica & F. gigantica</i> <ul style="list-style-type: none"> - Examination of fixed microscope slides and jar specimens for adults of both species. - Examination of fixed microscope slides for egg, miracidium, sporocyst, redia and cercaria - Inspection of shells of snail intermediate hosts. - 	2 nd	2	
2.	<ul style="list-style-type: none"> • <i>F. buski & H. heterophyes</i> <ul style="list-style-type: none"> - Examination of fixed microscope slides and jar specimens for adult <i>F. buski</i>. - Examination of fixed microscope slides for adult <i>H. heterophyes</i> and eggs of both species. - Inspection of shells of snail intermediate hosts of both species. 	3 rd	2	
3.	<ul style="list-style-type: none"> • <i>S. haematobium, S. mansoni & S. japonicum</i> <ul style="list-style-type: none"> - Examination of fixed microscope slides for adults, eggs, miracidium, sporocyst and cercaria of the three species. - Inspection of shells of snail intermediate hosts of the three species. 	4 th	2	
4.	<ul style="list-style-type: none"> • <i>T. saginata & T. solium</i> <ul style="list-style-type: none"> - Inspection of jar specimens of adult worms and their body parts. - Examination of fixed microscope slides for scolices, segments (immature, mature and gravid) and egg. 	5 th	2	
5.	<ul style="list-style-type: none"> • <i>H. nana & H. diminuta</i> <ul style="list-style-type: none"> - Examination of fixed microscope slides for scolices, segments (immature, mature and gravid) and eggs of both species. 	6 th	2	
6.	<ul style="list-style-type: none"> • <i>E. granulosus & D. caninum</i> <ul style="list-style-type: none"> - Inspection of jar specimens of hydatid cysts (different sizes). - Examination of fixed microscope slides for adult worms, segments (immature, mature and gravid), protocolices and egg of <i>E. granulosus</i> and egg capsule of <i>D. caninum</i>. 	7 th	2	
7.	<ul style="list-style-type: none"> • <i>A. lumbricoides</i> <ul style="list-style-type: none"> - Inspection of jar specimens of male and female adults. - Examination of fixed microscope slides for eggs (unfertilized, fertilized and decorticated). 		2	

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8.	<ul style="list-style-type: none"> • <i>T. trichiura, E. vermicularis</i> • - Examination of fixed microscope slides for male and female adults and egg. 	9 th	2
9.	<ul style="list-style-type: none"> • <i>A. duodenale, S. stercoralis</i> • - Examination of fixed microscope slides for male and female adults and egg. 	10 th	2
10.	<ul style="list-style-type: none"> • <i>W. bancrofti & B. malayi</i> • - Examination of fixed blood slides for <i>W. bancrofti</i> and <i>O. volvulus</i> microfilariae. 	11 th	2
11.	<ul style="list-style-type: none"> • <i>O. volvulus & L. loa</i> • - Examination of fixed blood slides for <i>W. bancrofti</i> and <i>O. volvulus</i> microfilariae. 	12 th	2
12.	<ul style="list-style-type: none"> • <i>D. medinensis & T. spiralis</i> • - Examination of fixed microscope slides for <i>D. medinensis</i> and <i>T. spiralis</i> microfilariae. 	13 th	2
13.	<ul style="list-style-type: none"> • <i>Final practical exam</i> 	14 th	2
Total number of weeks and hours		13	26

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