

Faculty of Clinical Pharmacy

Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University for Medicals and Applied Sciences



Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of **Parasitology**

Course Code. (03.04.212)

2022



T4: This Template is Developed and Approved by CAQA-Yemen, 2024

Prepared by:

Dr. Ghamdan AL-Tahish

Reviewed by:

Dr. Ebtesam Al- Zabedi

Head of the Department:

Dr. -----

Vice Dean for Quality affairs

Dr. Abdulelah Thabet

Dean of College:

Dr. Ali Alyahawi

I. General Information:

1.	Course Title:	Parasitology			
2.	Course Code:	03.04.212			
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours
			Lecture	Tutorial/Seminar	Lab
		3	2		2
4.	Level/ Semester at which this Course is offered:	Level 3/ Semester 2			
5.	Pre –Requisite (if any):	General biology			
6.	Co –Requisite (if any):	None			
7.	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
8.	Language of Teaching the Course:	English			
9.	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
10.	Prepared by:	Dr. Ghamdan AL-Tahish			
11	Date and Number of Approval by Council:				

II. Course Description:

The course focuses on the study of parasites that cause diseases in humans, their life cycles, , pathogenesis, epidemiology, management. modes of transmission , reservoir hosts, and their impact on public health. The course covers topics such as protozoan , helminthic and arthropods. infections, clinical manifestations, laboratory diagnosis of parasitic diseases, pharmacological interventions, and strategies for prevention and control.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs	
A. Knowledge and Understanding:		I, P or M/A	
a1	Identify the major parasites that cause human diseases and describe their life cycles., modes of transmission, epidemiology, clinical manifestations and complications associated with parasitic diseases.	I	A1
a2	Understand the principles and methods of laboratory diagnosis for parasitic diseases and approaches for the treatment and prevention of parasitic infections	I	A5
B. Intellectual Skills:			
b1	Evaluate the pharmacological interventions used in the treatment of parasitic infections.	P	B4, B5
b2	Analyze the strategies for prevention, control, and elimination of parasitic diseases.	P	B4, B5
C. Professional and Practical Skills:			
c1	Apply knowledge of Pharmaceutical Parasitology in the management of patient cases including treatment and vaccines.	P	C4
c2	Use basic knowledge in Pharmaceutical Parasitology to carry out research regarding parasite treatment and resistance	P	C5
D. Transferable Skills:			
d1	Communicate effectively and ethically with patients, public, and health care professionals	A	D1
I= Introduced, P=Practiced or M/A= Mastered/Advanced			

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
a1	Identify the major parasites that cause human diseases and describe their life cycles., modes of transmission, epidemiology, clinical manifestations and complications associated with parasitic diseases.	- Lecture - Instructor – student Interactive - Office hour	- Exam - Assignment - Quiz
a2	Understand the principles and methods of laboratory diagnosis for parasitic diseases and and approaches for the treatment and prevention of parasitic infections	- Lecture - Instructor – student Interactive - Office hour	- Exam - Assignment - Quiz
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
b1	Evaluate the pharmacological interventions used in the treatment of parasitic infections.	- Lecture - Instructor – student Interactive - Exercises - Solving Problem Methods	- Problem-Solving Exercises. - Assignment - Quiz
b2	Analyze the strategies for prevention, control, and elimination of parasitic diseases.	- Lecture - Instructor – student Interactive - Exercises - Solving Problem Methods	- Problem-Solving Exercises. - Assignment - Quiz
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
c1	Apply knowledge of Pharmaceutical Parasitology in the management of patient cases including treatment and vaccines.	- Lecture - Instructor – student Interactive - Self-Learning	- Exam - Assignment - Quiz
c2	Use basic knowledge in Pharmaceutical Parasitology to carry out research regarding parasite treatment and resistance	- Lecture - Instructor – student Interactive - Self-Learning	- Exam - Assignment - Quiz
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			



Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
D1 Communicate effectively and ethically with patients, public, and health care professionals	- Seminar - Instructor–student Interactive - Exercises	Presentation

IV. Course Contents:

A. Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Introduction	al-a2;	- Scope and Significance - Host-parasite relationship - Parasite, host vectors types - Taxonomy of parasites - Classification of parasites, - General Characteristics, Morphology, Life Cycle,	1	2
2	General Characteristics, of parasitic diseases	al; a2, bl	- Epidemiology Transmission - Pathogenesis of parasitic diseases - Immunology of parasitic diseases	1	2
3	General Characteristics, of parasitic diseases	al-a2, b2;	- Laboratory diagnosis of parasitic diseases - Treatment of parasitic diseases		
4	Intestinal & Luminal Protozoa : Entamoeba histolytica and others Entamoeba species ,Giardia lamblia, Trichomonas vaginalis	al,a3;	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
5	Malaria and Babesia	al,a2; bl,	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2

6	Hemoflagellates Leishmania and <i>Trypanosoma</i>	al,a2;b2;b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
7	Coccidia Toxoplasma gondii <i>Isospora Belli</i> , <i>Cryptosporidium</i> <i>Parvum</i> , <i>Cyclospora</i> <i>Cayetanensis</i>	al, a2, bl,, b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
8	Mid term	al-a2,bl-b2		1	2
9	Intestinal Nematodes Ascaris species Hookworm Strongyloides species	al-a2,bl-b2	Nematodes General features Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features,Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
10	Intestinal Nematodes Enterobius vermicularis Trichuris trichiura	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
11	Blood flukes: Schistosoma species	al-a2,bl-b2	Classification of Trematodes; Flukes: General Characteristics; Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis,	1	2

			Treatment, Prophylaxis		
12	Liver fluke : Fasciola species	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
13	Cestodes : <i>Taenia saginata</i> <i>Taenia solium</i>	al-a2,bl-b2	Classification of Cestodes; Tapeworms: General Characteristics; Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
14	Cestodes : <i>Hymenolepis nana</i> <i>Dipylidium caninum</i> <i>Echinococcus</i> species	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
14	Tissue Nematodes: <i>Wuchereria bancrofti</i> <i>Onchocerca volvulus</i>	al-a2,bl-b2	History and Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
15	Arthropodes: Mites and lice	al-a2,bl-b2	History and Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature,	1	2

			Laboratory Diagnosis, Treatment, Prophylaxis		
16	Final exam	al-a2,bl-b2		1	2
Number of Weeks /and Units Per Semester				16	32

B. Practical Aspect (Lab/Clinical) (if any):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Laboratory Safety Measures	1	2	c1 ,c2
2	- Equipment and techniques (wet preparation concentration methods,..... etc) used in laboratory of medical parasitology	1	2	c1 ,c2
3	- Equipment and techniques (wet preparation concentration methods,..... etc) used in laboratory of medical parasitology	1	2	c1 ,c2
4	- Entamoeba histolytica and Entamoeba coli	1	2	c1 ,c2
5	- Identification of Giardia lamblia and Trichomonas vaginalis	1	2	c1 ,c2
6	- Identification of <i>Leishmania speacies</i>	1	2	c1 ,c2
7	=Detection of plasmodium spp and bebasia (blood films, repaid test.....etc)	1	2	c1 ,c2
8	Detection of <i>Toxoplasma Isospora Belli</i> , <i>Cryptosporidium Parvum</i> , <i>Cyclospora Cayetanensis</i>	1	2	c1 ,c2
9	Identification of Ascaris species Hookworm	1	2	c1 ,c2
10	Identification of Enterobius vermicularis Trichuris trichiura and Strongyloides species	1	2	c1 ,c2
11	Schistosoma species , Fasciola species	1	2	c1 ,c2
12	<i>Taenia saginata</i> , <i>Taenia solium</i>	1	2	c1 ,c2
13	<i>Wuchereria bancrofti</i> <i>Onchocerca volvulus</i> Arthropodes identification : Mites and lice	1	2	c1 ,c2
14	- Final test	1	2	c1 ,c2
Number of Weeks /and Units Per Semester		14	28	

C. Tutorial Aspect (if any):

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
-----	----------	-----------------	---------------	---------------------------

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
Number of Weeks /and Units Per Semester				

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Homework / Tasks using Internet for some assignments and activities	4 th	2.5	a1, a2, b2, c1
2	Presentations	12 th	2.5	a1, a2, b2, b2, c1,
Total			5	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	4 th , 12 th	5	5%	a1.a2,b1.b2,c1,c2
2	Practical Reports	2 nd -13 th	5	5%	a1, a2, b1, b2, c1, c2
3	Midterm Exam (Theory)	Week 7	20	20%	a1, a2, b1, b2
4	Final Practical Exam	14 th	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a1, a2, b1, b2,
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s):

1. Paniker's textbook of Medical parasitology (seventh edition) CK Jayarampaniker
2. Medical parasitology A self- instructional. Text (sixth edition) Ruth leventhal

2- Essential References.

1. Atlas of Medical helminthology and protozoology (fourth edition) P. L. chiodini
2. Diagnostic medical parasitology (FAQ'S) Lynne Garcia

3- Electronic Materials and Web Sites etc.

- 1 -<http://www.learnerstv.com/Free-medical-Video-lectures-Itv022-page1.htm> .

X. Course Policies: (Based on the Uniform Students' By law (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D..

Course Plan (Syllabus) of **Parasitology**

Course Code. 03.04.212

I. Information about Faculty Member Responsible for the Course:						
Name of Faculty Member:	Dr. Ghamdan AL-Tahish			Office Hours		
Location & Telephone No.:						
E-mail:				SAT	SUN	MON TUE WED THU

2022

I. General Information:

11.	Course Title:	Parasitology			
12.	Course Code:	03.04.212			
13.	Credit Hours:	Credi t Hours	Theory Contact Hours		Practical Contact Hours
			Lectur e	Tutoria l/Semin ar	Lab Clinical
		3	2		2 --
14.	Level/ Semester at which this Course is offered:	Level 3 / Semester 2			
15.	Pre –Requisite (if any):	General biology			
16.	Co –Requisite (if any):	None			
17.	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
18.	Language of Teaching the Course:	English			
19.	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
20.	Prepared by:	Dr. Ghamdan AL-Tahish			
11	Date and Number of Approval by Council:				

II. Course Description:

The course focuses on the study of parasites that cause diseases in humans, their life cycles, , pathogenesis, epidemiology, management. modes of transmission , reservoir hosts, and their impact on public health. The course covers topics such as protozoan , helminthic and arthropods. infections, clinical manifestations, laboratory diagnosis of parasitic diseases, pharmacological interventions, and strategies for prevention and control.

III. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the course, students will be able to:

A. Knowledge and Understanding:

- | | |
|----|--|
| a1 | Identify the major parasites that cause human diseases and describe their life cycles., modes of transmission, epidemiology, clinical manifestations and complications associated with parasitic diseases. |
| a2 | Understand the principles and methods of laboratory diagnosis for parasitic diseases and approaches for the treatment and prevention of parasitic infections |

B. Intellectual Skills:

- | | |
|----|---|
| b1 | Evaluate the pharmacological interventions used in the treatment of parasitic infections. |
| b2 | Analyze the strategies for prevention, control, and elimination of parasitic diseases. |

C. Professional and Practical Skills:

- | | |
|----|--|
| c1 | Apply knowledge of Pharmaceutical Parasitology in the management of patient cases including treatment and vaccines. |
| c2 | Use basic knowledge in Pharmaceutical Parasitology to carry out research regarding parasite treatment and resistance |

D. Transferable Skills:

- | | |
|----|--|
| d1 | Communicate effectively and ethically with patients, public, and health care professionals |
|----|--|

IV. Course Contents:

A. Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Introduction	al-a2;	- Scope and Significance • Host-parasite relationship - Parasite, host vectors types • Taxonomy of parasites - Classification of parasites, - General Characteristics, Morphology, Life Cycle,	1	2
2	General Characteristics, of parasitic diseases	al; a2, bl	- Epidemiology Transmission - • Pathogenesis of parasitic	1	2

			diseases - • Immunology of parasitic diseases		
3	General Characteristics, of parasitic diseases	al-a2, b2;	- Laboratory diagnosis of parasitic diseases - Treatment of parasitic diseases		
4	Intestinal & Luminal Protozoa : Entamoeba histolytica and others Entamoeba species , Giardia lamblia, Trichomonas vaginalis	al,a3;	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
5	Malaria and Babesia	al,a2; bl,	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
6	Hemoflagellates Leishmania and Trypanosoma	al,a2;b2;b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
7	Coccidia Toxoplasma gondii Isospora Belli, Cryptosporidium Parvum, Cyclospora Cayetanensis	al, a2, bl,, b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
8	Mid term	al-a2,bl-b2		1	2
9	Intestinal Nematodes Ascaris species Hookworm	al-a2,bl-b2	Nematodes General features Distribution, Habitat, Morphology,	1	2

	Strongyloides species		Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis		
10	Intestinal Nematodes Enterobius vermicularis Trichuris trichiura	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
11	Blood flukes: Schistosoma species	al-a2,bl-b2	Classification of Trematodes; Flukes: General Characteristics; Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
12	Liver fluke : Fasciola species	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
13	Cestodes : Taenia saginata Taenia solium	al-a2,bl-b2	Classification of Cestodes; Tapeworms: General Characteristics; Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis,	1	2

			Treatment, Prophylaxis		
14	Cestodes : Hymenolepis nana Dipylidium caninum Echinococcus species	al-a2,bl-b2	Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
14	Tissue Nematodes: Wuchereria bancrofti Onchocerca volvulus	al-a2,bl-b2	History and Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
15	Arthropodes: Mites and lice	al-a2,bl-b2	History and Distribution, Habitat, Morphology, Antigenic Variation, Life Cycle, Pathogenicity and Clinical Features, Pathogenesis and Clinical Feature, Laboratory Diagnosis, Treatment, Prophylaxis	1	2
16	Final exam	al-a2,bl-b2		1	2
Number of Weeks /and Units Per Semester				16	32

B. Practical Aspect (Lab/Clinical) (if any):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Laboratory Safety Measures	1	2	c1 ,c2
2	- Equipment and techniques (wet preparation concentration methods,..... etc) used in laboratory of medical parasitology	1	2	c1 ,c2
3	- Equipment and techniques (wet preparation concentration methods,..... etc) used in laboratory of medical parasitology	1	2	c1 ,c2
4	- Entamoeba histolytica and Entamoeba coli	1	2	c1 ,c2
5	- Identification of Giardia lamblia and Trichomonas	1	2	c1 ,c2



No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	vaginalis			
6	- Identification of <i>Leishmania speacies</i>	1	2	c1 ,c2
7	=Detection of plasmodium spp and bebasia (blood films, repaid test.....etc)	1	2	c1 ,c2
8	Detection of <i>Toxoplasma Isospora Belli</i> , <i>Cryptosporidium Parvum</i> , <i>Cyclospora Cayetanensis</i>	1	2	c1 ,c2
9	Identification of Ascaris species Hookworm	1	2	c1 ,c2
10	Identification of Enterobius vermicularis Trichuris trichiura and Strongyloides species	1	2	c1 ,c2
11	Schistosoma species , Fasciola species	1	2	c1 ,c2
12	<i>Taenia saginata</i> , <i>Taenia solium</i>	1	2	c1 ,c2
13	<i>Wuchereria bancrofti</i> <i>Onchocerca volvulus</i> Arthropodes identification : Mites and lice	1	2	c1 ,c2
14	- Final test	1	2	c1 ,c2
Number of Weeks /and Units Per Semester		14	28	

- VI. Teaching Strategies of the Course:

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

VII. Assessment Methods of the Course:

- Assignments
- Quiz
- Exam
- Oral Presentation

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Homework / Tasks using Internet for some assignments and activities	4 th	2.5	a1, a2, b2, c1
2	Presentations	12 th	2.5	a1, a2, b2, b2, c1,
Total			5	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	4 th , 12 th	5	5%	a1.a2,b1.b2,c1,c2
2	Practical Reports	2 nd -13 th	5	5%	a1, a2, b1, b2, c1, c2
3	Midterm Exam (Theory)	Week 7	20	20%	a1, a2, b1, b2
4	Final Practical Exam	14 th	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a1, a2, b1, b2,
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s):

1. Paniker's textbook of Medical parasitology (seventh edition) CK Jayarampaniker
2. Medical parasitology A self- instructional. Text (sixth edition) Ruth leventhal

2- Essential References.

1. Atlas of Medical helminthology and protozoology (fourth edition) P. L. chiodini
2. Diagnostic medical parasitology (FAQ'S) Lynne Garcia

3- Electronic Materials and Web Sites etc.

- 1 -<http://www.learnerstv.com/Free-medical-Video-lectures-Itv022-page1.htm> .

X. Course Policies: (Based on the Uniform Students' By law (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.